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THE PROGRESS OF MEDICAL EDUCATION—A SUGGESTION FOR A BETTER ARRANGEMENT OF THE MEDICAL CURRICULUM.

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CHICAGO.

In looking back over the progress of medical education in the United States during the past fifteen years, the profession can congratulate itself on a steady, and even remarkable development. In 1881 there were in the United States 25 students of medicine, 6 of law and 9 of theology to each 100,000 inhabitants. The students of theology were maintained and educated by private endowments, amounting to over $20,000,000, those of law paid for their own education in fees, while the students of medicine paid only trifling fees, and were educated for the most part at the expense of the medical profession. Since 1881 the medical students in the United States have increased in a remarkable ratio, from 13,000 to 24,000, and are still educated at the expense of their educators. The fees in the majority of schools have been inadequate to pay the incidental expenses and the instructors, and the total endowments of medicine are less than $1,000,000. But it is not in the number of students, nor in the amount of endowments, that the greatest progress has been made. The course of study for the degree of Doctor of Medicine has, in the past fifteen years, been doubled in its duration of time, and more than doubled in the amount of work required of the student. It may be that this rapid growth of the medical curriculum has not always been most wisely directed, but it is a matter of peculiar significance and speaks loudly for the solidarity of the medical profession that the arrangement of the course of study has been practically uniform throughout the United States.

In the old medical school, requiring two courses of lectures, there were usually morning lectures on anatomy, physiology and materia medica, and in the afternoon on medicine, surgery and obstetrics. Each student was expected to attend all these lectures every day during the winters of two succeeding years, and then to pass a written or oral examination and receive a diploma which became his license to practice medicine. In the summer intervals many students had an opportunity to share the practice of medicine with their preceptors, and often to assist them in medical and surgical operations and emergencies. Gradually the course of study grew to three and then to four years. Instead of repetition courses, new studies were introduced, especially laboratory work and clinical exhibitions, requiring five to eight hours a day of the student's time on entirely new work, during each succeeding course. In other words, the medical courses gradually became graded after the fashion of the graded system in the primary branches of the public schools. With this graded system was introduced a system of written examinations, while at the same time the importance and usefulness of the preceptor gradually diminished, and the opportunities of practice with him were lost. The work of the medical school became a treadmill of lectures, recitations, laboratory work and clinical demonstrations, and the examinations became extremely burdensome to the student.

Teachers who base their claim to efficiency on the difficulty of the questions they ask and the severity of their markings, and teachers who magnify their own departments, and require a greater proportion of the student's time than a wise supervision could allow, and teachers who deprecate the importance of one form of teaching—e. g., laboratory work—and exalt that form of teaching which seems to them more practical—e. g., clinical teaching—have made the life of the medical student an extremely hard one, and at the same time they have disturbed the administration by constantly "plucking" a large proportion of students on the eve of graduation. In other words, the medical curriculum has been increased beyond the strength of the old organization of the medical faculty. The teachers of medicine have been paying too much attention to the subjects or else too little to the students they were teaching, and to the manner in which they were doing it. The teacher of chemistry has devoted himself to the study of chemistry, and he has paid no attention to the study of the student and the student's need of chemistry, while he has paid no attention to the method of teaching chemistry so as to make this most useful to the physician the student expects to become. The same may be said of the teacher of pathology, and of practically every teacher in every medical faculty, except perchance that teacher happens at the same time to be the secretary or dean of the faculty, and therefore brought in contact with the student in his general relations to the college.

In this process of building up and rounding out the medical curriculum during the past ten or fifteen years, the labor imposed on the medical student has been enormously increased. In some colleges the student is actually required to sit in the lecture-room, in the clinic or in the laboratory, an average of eight hours a day, or forty-eight a week; and besides this he is expected to read and prepare himself for recitations by the expenditure of not less than five other hours each day, or thirty other hours each week, an amount of required time which, when it is presented in this form, makes the requirement absolutely absurd. It is not entirely useless to seek for the cause of this unbalanced growth. It is evidently in a measure the natural result of the growth of medical science, which has added several new and large departments to the domain of medicine. It is due also to the inherent fault in the organization of the medical school.

But perhaps worst of all is the disintegration which

has come into the medical curriculum. When the medical school was small, and the number of teachers few, each teacher was a practicing physician, and he knew every student. Anatomy is now taught by an anatomist who does not practice medicine, and who has forgotten all but the most obvious reasons why the medical student should study the dead human body. He prides himself on his own intimate knowledge of this wonderful structure, and it is his effort and determination to secure an equally accurate knowledge of the most minute structures, on the part of every student in his class. The greater topics in anatomy, from his standpoint, are the topics the most difficult to comprehend. The sphenoid takes more time from the student than the elbow-joint. Anatomy is studied as if it were disconnected with the living human body and the practice of medicine. The student has no adequate and immediate motive for this study, and he approaches it through the bones which are most hidden from his view, and least connected with what he knows already. While he is studying these unknown, or remotely known bodies, he begins, under another teacher, who disassociates his work as much as possible from the student's previous and present interests, the study of physiology, on equally unknown or slightly known animalculæ, on frogs or on dogs. And perhaps this process of disassociation goes still further, and he studies the histology of the organs of reproduction, or of the various glands of the body, and of the other soft tissues, under a professor of histology, who gives out mounted specimens or cut and stained sections of these tissues with a label on each specimen to the effect that "this is a liver," and "this is the stomach of a cat," and "this is an intestine of a guinea-pig."

For a year or two the student studies dead human bones and flesh; he works on living animalculæ and mangled frogs and dogs, and he peeks through an instrument at colored shreds of tissues taken from bottles smelling of wood alcohol and oil of cloves, and does this with no motive except to answer questions, and make pictures and talk learnedly about processes which seem to him to belong to another world. Then at last the student begins to see living men and sick men; he sees the process of diagnosis, and frequently has the instruments of diagnosis thrust unexpectedly on him and he is initiated as a spectator into the mysteries of medical and surgical treatment. Here, also there is the greatest disassociation of ideas. Pathologic conditions are studied on specimens taken out of bottles, or they are studied in the books. Materia medica and therapeutics are studied before the student has any knowledge of the pathologic and clinical conditions in which drugs are to be used, or other therapeutic measures employed.

By this system the student's mind is filled with a multitude of words and indistinct pictures. No part of the field of medicine is studied transversely. Like a student of geology who has studied the various geologic ages in the museum, and finds himself lost when he goes into the field; so the medical student, after years of cramming and dissecting, section making and hunting unknowns, finds himself utterly unable to cope with the simplest problems of diagnosis and treatment.

This statement of affairs has caused many teachers to look back with longing eyes to the old days of the preceptor and the short course of medical lectures, and it has led other teachers to bestir themselves and study the pedagogic problems which have been working themselves out for a long time in other departments of education. It may not therefore be amiss, if, as one of these, I present in a more or less concrete and extended form, my own opinions in regard to the direction of the next step, which step, in some direction, everyone admits must be taken in the development and progress of medical education in the United States.

First of all it seems to me the ironclad sequence of medical studies must be broken up, and that the various branches of the medical curriculum must be intimately connected. Medicine must not be studied in separate layers, but transversely, and all parts of the medical curriculum must be bound into a perfect union by the motive which holds them together in the mind of the practicing physician and surgeon.

Medical education is not a preparation for the practice of medicine, but it is and must be the practice of medicine itself. The student and the patient must meet at the door of the medical school, and the motive for medical study must from the start be the cure or the treatment of the patient. The abstract statement is easier to make than any plan which will accomplish the object. But this object was accomplished by the old system with the preceptor, even though its accomplishment was rudely and uncertainly attained.

Before any change can be made which will unify and co-ordinate the medical curriculum, every member of the faculty must be brought into harmonious sympathy with the idea that the medical school is to educate and not to instruct; that it is to develop the power of the student to cure the patient and not the ability of the student to answer questions or perform academic or laboratory feats. This, it seems to me, can be brought about by a more intimate subordination of the faculty and the curriculum to a medical educator, of which class of men most faculties possess two or three, rather than to a venerable or honorable dean, whose employment and disposition leaves each teacher to a complete independence in regard to the management of his own so-called department. The student must come in close contact with the patient on the one hand, and with the teaching faculty on the other; and this contact must be attended with responsibility. The student must feel his responsibility for the care of the patient, and the faculty must feel a united and individual responsibility in the direction and education of the student. All of these ends I believe can be attained by the organization of an elective course in medicine, which will allow the student to study thoroughly some one part of the field of medicine, from which eminence he will attain a better knowledge of the whole field of medicine than is now attained by the body of our medical graduates.

The architecture of the old medical school corresponded with the purposes for which it was used. It usually consisted of a more or less monumental building, containing a large lecture-room in the form of an amphitheater, and a spacious room used for a museum, and a dark upper one for dissections, which latter were usually carried on at night. This simple arrangement would not adapt itself to the needs of the medical school of to-day. The traditions in medicine are so strong that the amphitheaters have been multiplied, with the addition of laboratories, store-rooms, preparation-rooms and study-rooms. In some colleges libraries have also been added. The Bureau of Education reports, for the year ending 1897, libraries with 119,000 volumes in the various medical schools. This seems very small compared with the extensive ones in the schools of theology and the literary institutions of the country. Fifty of the 150 medical colleges report libraries ranging all the way from 200 to 10,000 volumes.

The increase in the equipment of the medical college

has corresponded with the increase in the curriculum and in the number of teachers employed, but these additions to the equipment have often been made without considering the possibility of change in the methods of instruction. The dissecting-rooms have been increased in size, without adding to them instruments, preparations and works of reference so necessary to any thoroughly anatomic work. It is still thought sufficient in most of our colleges to cut up the cadaver. Little use is made of other methods of study, such as digestion, corrosion and infiltration. With the growth of the medical college, the number of students in the classes taught has increased to an unmanageable extent. To lecture or speak to a large number of students is always flattering to a teacher, although all pedagogic experience is opposed to successful teaching in large classes, except that of a most superficial and exceptional character. The proposed changes in the medical curriculum would require the removal of all the amphitheaters, except perhaps one, and the substitution of numerous small rooms adapted to the accommodation of classes of twenty to fifty students.

The foregoing plan[1] would perhaps work itself out, as do all experiments with human beings, more or less unexpectedly. It is probable that teachers who are now poorly fitted for lecturing in an amphitheater would find themselves excellently prepared to conduct the proposed studies. It is likely also, that a larger number of teachers would be required than are now engaged in medical teaching.

This plan is not proposed as an easier way to teach medicine; it is a more serious and a more earnest method. It contemplates a more intimate and coherent organization of the faculty than prevails in most of our medical colleges, and an organization, too, for the study of medicine and the advancement of research. The successful teacher must himself be a student. If an institution would successfully teach medicine that institution must be so conducted as to year by year advance medical knowledge. The medical school should be a hive of industry where teacher and student work together to find some better way to cure the patient safely, quickly and pleasantly. In order to cure the patient, laborious and long-continued anatomic research, combined with equally laborious, even more exacting and difficult, pathologic research may be necessary. While all the results of such study and teaching may not be "practical," they are valuable in the end. These researches are carried on primarily for the discovery to the student of the facts concerned, but this primary motive is not the essential part of the education. The effect of this honest forceful exercise on the student himself is the real object of the research and the real essence of the education.

In some of our manual training schools the students make, from the day they enter the school, first-class articles for their own use. To begin with, these are simple, and later they are more difficult of construction. No article is left or given up until it is completely finished and put in use by the student himself. The finishing of a necessary thing is the essential element in sjloyd. It is in these two particulars that it makes its great protest against most of our educational methods. Many mistake the object of, say, wood sjloyd. They think that its object is to produce first-class trunks or first-class chairs or first-class tables. But this is a mistake. Its object is to produce first-class men, and the making and finishing a first-class trunk, chair and table is only a means to the end. Carpentry, on the one hand, has for its end the production of first-class articles in wood; sjloyd, on the other hand, like every other means of education, seeks to produce first-class men. Wood sjloyd uses the production of these objects solely for the benefit of the producer, while carpentry cares nothing for the carpenter so long as the product is good.

This long and clumsy analogy has seemed to me necessary to make my object clear in this proposed medical school. The work done by the student must have an adequate and immediate object. This object must always be the cure of the patient. The work must be done in the best, most thorough and most artistic manner. It must be as good as the best in every particular. It must be finished to the very end, and this end is to the point of making the work, research or investigation useful. The end of some such investigation is not reached until the research is published. All this work is to be done with the primary end in view, of curing or caring for some particular patient, but the hidden and essential end is the education of the student. And again, let me insist that the great object of any true plan of medical education will and must from the start put the student in the place of the physician. It will secure progress, going from the known to the unknown. This progress will be made or compelled by an adequate and imperative motive, namely, the desire to cure the patient. It will co-ordinate all the branches, so-called, of the medical curriculum about the patient and his treatment. It will secure through this pressing motive such an interest on the part of the student, such a fluidity of intellect, such a concentration of purpose and such an intensity of application as will make it resemble the play of children and the activity of genius. It will unite the various and now distinct members of the medical faculty on common objects of interest, and promote unity where there is now unfortunate rivalry. It will make the medical school a center of medical information and research, and the source of material for medical literature. It will raise medical education to a plane and dignity worthy the support of private endowment and state aid, and make the medical faculties the pride of the medical profession. It will regenerate the body of the profession by infusing new blood and new spirit, and it will call forth into medicine the best educated young men in the land, who are now repelled and driven into other occupations by the unpedagogic methods of our schools.

[1] A few copies of this announcement, as prepared for a medical school, were distributed at the meeting of the Association of American Medical Colleges, and they can be procured of the author on application.

DRUGGISTS AND MEDICAL PRACTICE.—Justice McLean, in the New York supreme court, has rendered a decision in connection with the dismissal of the complaint in a suit brought by Ferdinand Roth against Arneman & Behrens, druggists, to recover $10,000 damages for alleged improper treatment of a cut on the thumb. Roth having received the cut, went to the defendants' drug store, where a clerk bandaged the wound, and handed the plaintiff a bottle containing carbolic acid, directing him to put a few drops on the bandage. Acording to Roth, this treatment resulted in inflammation, blood-poisoning, and finally in amputation of the thumb. The defendant set up the plea that druggists were not permitted, under the laws of this state, to practice medicine and surgery, that the plaintiff should, therefore, have gone to a qualified physician and surgeon, and that if any action could be maintained in this case, it could only be against the clerk. The judge coincided in this view, declaring that the complainant sought advice at his own risk.

ON LATENT INFECTION AND SUBINFECTION, AND ON THE ETIOLOGY OF HEMOCHROMATOSIS AND PERNICIOUS ANEMIA.*

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(Concluded from p. 1514.)

ON THE PRESENCE OF BACTERIA IN NORMAL TISSUES.

Similar considerations and similar criticisms may be brought to bear on the observations which have been made with regard to the existence of bacteria in the normal tissues. Time and again observers, like Hauser,[35] Neisser,[36] and yet others, have found the tissues of healthy animals so frequently sterile that the occasional gaining of cultures from the organs has been by them referred to contamination in the admittedly difficult task of removal of organs or parts of organs from the body into sterile receptacles. Thus, for example, Neisser, out of some thirty-seven rabbits, mice and guinea-pigs, which he fed with various pathogenic and non-pathogenic organisms and in certain of which he further set up grave intestinal irritation by giving at the same time croton-oil or powdered glass, failed to gain cultures from growths in the liver, spleen, kidneys, lungs, etc., in twenty-four, and only gained cultures, and these in not all the organs, in the remaining thirteen. His method was apparently most complete; the animals were skinned and then placed in sublimate solution so as to sterilize the surface, then fastened out on sterile boards, the operator himself having his hands sterilized, and each organ was removed in turn by a separate set of sterile instruments and then placed in sterile vessels and melted gelatin or, rarely, melted agar poured over them, while only after two days were they examined.

The results seem most positive, and what is remarkable is that even when cultures did grow in the organs, in general they were not the forms with which the animals had been fed.

Recently Dr. A. G. Nicholls and Dr. Ford, Fellow in pathology at McGill, have been repeating these observations, and they have gained very different results and Ford has discovered wherein Neisser has been led astray. The animals employed by him so far have been rabbits, and he has taken precautions similar to those employed by Neisser to guard against contamination. Immediately after removal of the kidney or portion of the liver with sterile instruments, it has been placed in the flame of a large Bunsen burner and turned around until the surface began to "splutter," if I may so express it, thereby making sure that there should be no surface contamination. The organ or part has then been dropped into a sterilized bottle of special construction, containing melted glycerin or melted agar, so that if there were any subsequent contamination by the air it would first of all show itself on the surface of this medium when solidified. Dr. Ford will publish his whole series of observations later, but he has done sufficient to allow me to state that where organs are placed in gelatin and kept in the cold, a large portion remain absolutely sterile and show no growth, whereas when placed in agar and kept at the body temperature, the majority of livers and kidneys show relatively abundant growth after two days or less.

Here, again, I take it, the bactericidal influence of the body tissues come in. If may be that if the organs be not immediately removed after death, such bacteria as are present undergo attenuation and destruction with fair rapidity, unless, as in cases of disease, they be present in relatively large numbers, while at the same time the bactericidal powers of the tissues are depressed. What appears more evident, though, from Dr. Ford's results, is that this inhibitory action of the body tissues upon microbes that are accustomed to live at the body temperature is favored by keeping cool, or more correctly that the activity of growth of the bacteria is depressed. That Dr. Ford's results can not be ascribed to contamination is rendered evident by the fact that where he has found micrococci growing in the normal removed liver, he has found them also growing in the kidney. If certain forms of bacteria be present in one organ, the tendency for them is to be also present in the other; though it should be added that—as might be expected if these have been brought to the organs from the intestines—colon-like forms predominate, and again not infrequently more than one form is present.

Let me, before proceeding farther, gather up and group together the conclusions which may be legitimately adduced from the facts so far brought forward. They are, it seems to me, the following:

1. Normally there is a passage out of leucocytes through the mucosa on to the free surface of, more especially, the alimentary tract.

2. These leucocytes, while in part undergoing a destruction, in part find their way back between the epithelial cells, bearing with them foodstuffs and solid particles, among which may be the bacteria present in the cavity of the gut.

3. During the active congestion which accompanies digestion, the passage out and return of these wandering cells is increased.

4. These cells upon their return find their way either into the lymphatic channels or the venules of the portal system.

5. In either position, they tend to be destroyed and digested by the leucocytes and thus, while preparations of the mesentery and of the mesenteric lymphatic glands may show abundant bacteria, the vast majority of these at the same time show obvious degeneration, while cultures made from the mesentery or from the lymphatic glands upon ordinary media by ordinary methods as a consequence tend to remain sterile. Similarly, in the normal liver, the same rapid destruction takes place, so that here again, by ordinary methods, no evidence of living bacteria is obtainable.

6. By the employment of adequate methods it can be demonstrated that even in the healthy liver and kidney in a large number of cases, in one animal at least—the rabbit—a certain number of living microbes are present at any one moment so that, if the healthy organ be removed from the body, cultures can be obtained of these living microbes.

7. It is most probable, further, that in ordinary health a certain number of bacteria which have not been destroyed by the leucocytes or removed by the lymphatic glands or endothelium of the portal system, pass either through the thoracic duct or through the liver into the systemic blood. Such bacteria tend to be removed more especially by the kidneys, though it may be by other glandular organs. In any case the ordinary methods at present employed in making cultures from blood are inadequate to detect the presence of such bacteria unless they are of such a nature or are circulating in such quantities that the whole number is not destroyed by the bactericidal action of the shed blood.

LATENT INFECTION.

It follows further, from these conclusions, that there

*Annual Address delivered before the Society of Internal Medicine. Chicago, Nov. 29, 1899.

does exist a condition of what the French term "latent microbism," or what I think should be more correctly termed, for my present purposes, "latent infection." We have abundant evidence that even in the healthy feces such forms as the pyococci, streptococci and the bacillus pyocyaneus are to be encountered fairly often. We further know that the commonest form inhabiting the intestine, that which outgrows all other forms, namely the colon bacillus, even when obtained from perfectly healthy feces, may show marked pathogenetic properties when inoculated into the lower animals.

We also know as a common fact in pathology, that just as one swallow does not make a summer so an isolated microbe gaining entrance into the system, does not usually set up disease. Save when we are dealing with the most virulent forms of pathogenetic micro-organisms and with animals which are peculiarly susceptible, it requires numerous bacteria entering at the same time to so lower the resisting powers of the tissues as to there survive and proliferate. Even with the tubercle bacillus it has been calculated that, in the very susceptible rabbit, at least from twenty to thirty have to be inoculated subcutaneously before the disease can surely be set up; any lesser number is destroyed. If, therefore, in the intestine, here and there at scattered points, individual bacteria are being introduced into the system from time to time, that does not necessitate proliferation and consequent infection; we can easily understand that if the tissues there possess their normal powers, isolated bacteria tend to be destroyed by the cells or the containing leucocytes at the immediate point of entry; and, as a matter of fact, study of the mesenteric glands and the difficulty in obtaining cultures from these, even when sections of the same show relatively abundant bacteria, is clear evidence that this is the case.

ON CERTAIN CASES OF SURGICAL INFECTION.

Only the other evening I was talking over these matters with my colleague, Dr. Armstrong, surgeon to the Montreal General Hospital, and he put to me certain very pertinent questions. "Why," said he, "do we surgeons dread operating upon the robust city man apparently full of health and vigor, who wants to rush in upon us on the Friday or even upon the Saturday afternoon, to have some such small operation performed upon him as, for example, the removal of hemorrhoids, in order that he may be back again at his business on the Monday morning? Why is it that the chances are so greatly against such operation being safe? Why, on the other hand, if we coop up that man for two or three days previously and thoroughly purge him, is the operation a trifle, and we can be practically sure that there will be no complications? The sudden change in his diet and habits can scarce improve the vitality and resisting power of his cells. Why, again, is it our common experience that our best cases, upon which we can operate with the certainty of gaining good results, are those who have been almost bedridden with chronic disease and have been in a condition of invalidism for long months and living upon a restricted diet? Why, again, do we fear to operate upon cases suffering from chronic constipation? Can any more satisfactory explanation of these facts be given than this theory of latent infection and of the possible infection of wounds, not from outside or from the skin, but from bacteria circulating in the tissues, which, under normal conditions, are destroyed and rendered harmless, but which under the abnormal traumatic conditions of the operation are now able to proliferate and set up local disturbances?"

TERMINAL INFECTION.

But, in addition, we can equally well understand that if from some cause or other, as for example, from inflammation along the intestinal tract, whereby excessive numbers of bacteria are introduced, or again in conditions such as are afforded toward the conclusion of long-continued chronic wasting disease, in which the reactive powers of the tissues are greatly lowered, or again where there is temporary lowering of the vitality by injury or operation, then everything favors the multiplication of bacteria so introduced and the development of either localized—so-called cryptogenetic infection—or of general septicemic disturbance.

The admirable and, I would say, classic observations of Flexner,[37] on terminal infections, show in the most vivid light how common it is to have death preceded by such general or local infection by germs totally foreign to the main morbid condition, and amply confirm Osler's[38] well-known remark that "persons rarely die of the disease with which they suffer."

POST-MORTEM INFECTION.

If we accept the conclusions above mentioned, we gain a more correct understanding of what I may term "post-mortem infection" of the body. The usual explanation of the abundant growth of bacteria in the various organs after death is that while there may oftentimes occur an agonal invasion of bacteria, the essential cause of such infection and subsequent putrefaction is the entry of bacteria, more especially through the intestines after death. Birch-Hirschfeld[39] has lately reaffirmed this, and has brought forward certain observations of his own in favor of such a conclusion. While he admits that the agonal invasion may occur even in the absence of demonstrable lesions of the epithelial layer, he concludes that a post-mortem invasion of the internal organs by intestinal bacteria is a constant phenomenon, occurring in the majority of cases about ten hours after death, with especial frequency in the liver, but also met with in the kidneys, spleen, portal and heart blood and bile. It is an interesting point that Birch-Hirschfeld, in this supposed invasion, admits that the various organs show no constant sequence of infection, as again that morbid changes in the intestine have no influence on the time of the appearance of the bacillus coli in the internal organs. It is most interesting to further observe that this period of ten hours mentioned by him corresponds singularly with the maximum period, mentioned by Flexner, at which the blood of the cadaver was found to lose its bactericidal power; and lastly, it is of importance to notice that those who have explained post-mortem infection by this method have never demonstrated, what ought, according to this view, to be most clearly demonstrable, namely, the existence of masses of bacteria in special abundance in the intestinal wall and appearing to be growing through that wall into the blood-vessels and surrounding tissues.

It is impossible from the above observations that I have recorded to come to any other conclusion than that at the moment of death, or shortly before, the lowering of the vitality of the tissues permits a larger number of bacteria than normal to be present in the living state in the blood and lymph. Just as when one removes the blood or takes the tissue juices outside the body and adds to certain quantities of these fluids a fair number of bacteria, the tendency is for certain of those bacteria to be destroyed during the first few hours, then gradually for the remainder to multiply; so in the dead body, after death there would seem to be often, but not always, a

preliminary period in which the bactericidal action of the tissues continues and the number of bacteria to be obtained from the tissues by ordinary methods is singularly small: following this there is multiplication. In short, our ordinary methods are imperfect, inasmuch as they only give us results when bacteria are present in relative abundance. As a consequence, it is possible for us, fortunately, often to determine what is the main invading microbe, but even with them, as shown by Flexner's results, the greater the care that is taken, the greater the variety of bacteria which may be found in the body after death.

SUBINFECTION.

But apart from this latent infection and the sudden and acute one to which it may at times give rise, if we admit this normal passage in, and normal destruction of, bacteria by the tissues, there is possible, it seems to me, an intermediate condition which I would term "subinfection," a condition in which, as a consequence of chronic inflammatory disturbance in connection with the gastro-intestinal tract, there may for long periods pass in, through the walls of the stomach or of the intestine, a greater number of ordinary bacteria inhabiting the tract, and, while the bacteria undergo the normal and inevitable destruction by the cells of the lymph glands, the liver, the kidney and other organs, nevertheless, the excessive action of these cells and the effect on them of the bacterial toxins, liberated in the process of destruction, may eventually lead to grave changes in these cells and in the organs of which they are part—changes of a chronic nature. At no individual moment may we find evidence of the presence of large numbers of living bacteria in such organs, but we may find the evidence of their presence in the cells, and may find certain chronic inflammations associated with, or the result of, this overwork of the bacteria-destroying cells. It is possible, I would urge, that there may exist a morbid condition, the existence of which has not so far, to the best of my knowledge, been fully recognized. We must, I think, admit the existence of the following forms of infection:

1. *Fulminating Infection*—In which, from the onset to the conclusion, the tissues are unable to overcome the virus.

2. *Acute Infection*—In which, while at first the bacteria gain the upper hand, the tendency is for the tissues to be stimulated eventually to counteract the germs and their toxins.

3. *Chronic Infection*—In which the tissues have not the power of wholly destroying the bacteria, although they may arrest their activity, and thus the bacteria constantly but slowly gain the advantage.

4. *Subinfection*—In which the tissues readily destroy the invading bacteria, but in which, just as water constantly dropping makes a hole in the stone, eventually, with recurrent invasion, the tissues become worn out, whereupon chronic or acute infection may supervene.

The absolute recognition and determination of this last condition is rendered peculiarly difficult by the fact that any chronic catarrhal or inflammatory condition of the intestines is accompanied by abnormal fermentative changes therein. And thus at the present time it is almost impossible to distinguish and divide conditions which might be due to this combined cell exhaustion and cell intoxication from the intoxication and the disturbances due to increased absorption of soluble poisonous products through the intestinal wall.

Yet certain observations that I have been making during the last two years do, I must confess, lead me to believe in the existence of such a condition of subinfection. In the first place I found these minute diplococcoid bodies peculiarly frequent in the liver cells in cases of hepatic cirrhosis, and since finding these, the more I have myself made autopsies in cases of this condition, and the more I have carefully studied the records of others, the more it has been brought home to me that accompanying ordinary progressive cirrhosis there is a chronic catarrhal condition of the intestines, together with a definite enlargement of the retroperitoneal and mesenteric lymphatic glands. Here it is more especially in the cells at the periphery of the lobule that this presence of these bodies is noticeable, in those cells, that is to say, which are first fed from the blood coming from the portal vessels, and which are again most liable to undergo atrophy and to be affected by the fibroid change occurring in the interstitial tissues.

My first view that these little bodies either taking on a slight or an intensive stain, or seen purely as fine double pigment granules, were directly associated with cirrhosis and indicated a specific micro-organism, was rapidly modified by the discovery that cultures from the cirrhotic livers and from the bile in such cases, while at first tending to give a form of diplococcus, upon subculture and passage through animals, developed into a form morphologically unrecognizable from the colon bacillus, while frequently absolutely typical colon bacilli were obtained from these organs and from the rest of the body.

But while this is the case, the frequency with which the colon bacillus has been found by other observers, associated with more acute hepatic disease, and with which, in one form—the so-called hypertrophic cirrhosis—other observers have noted its presence, renders it not impossible that this bacillus may have some part to play in connection with the condition.

HEMOCHROMATOSIS.

Recently there came to us a case of well-marked hepatic cirrhosis associated with great pigmentation of the skin and the intense development of the condition known as hemochromatosis. In this, as in other cases of hemochromatosis, there was iron-containing pigment in the liver, the mesenteric glands, the pancreas, and to a less extent in the spleen, kidneys and the heart. What is the cause of this hemochromatosis has been a matter of very considerable conjecture of late years. There is a very full paper on the subject in the last issue of the *Journal of Experimental Medicine*, by Dr. Opie, of Baltimore, a paper so full and thorough that here I need not go into the various theories that have been adduced; I will only say that Dr. Opie comes to the conclusion that the condition is a distinct morbid entity characterized by the wide-spread deposition of the iron-containing pigment in certain cells, and the association of iron-free pigment in a variety of localities in which pigment is found in moderate amount under physiologic conditions. With the pigment accumulation there is degeneration and death of the containing cells, and consequent interstitial inflammation, notably of the liver and pancreas, which become the seat of inflammatory changes accompanied by hypertrophy, while, when the chronic interstitial pancreatitis has reached a certain grade of intensity, atrophy and diabetes ensue, and this last is the terminal event in the disease.

Dr. Maude Abbott, who has been working in my laboratory, on this subject, for some months, has reached somewhat different conclusions. She called my attention to the fact that where there is marked destruction of the blood the spleen may also be the seat of pigmentation.

whereas in the diabetic and cirrhotic cases, as again in pernicious anemia, the spleen is not implicated. Examining some of these typical cases of hemochromatosis she reported to me that in some instances, she noted frequent diplococcoid bodies. To a slight extent the deposit of iron-containing pigment is present in a large number of cirrhotic livers which she has examined, and she has been especially struck by the fact that one and all have shown either marked inflammatory disturbance in cases in which such occurs unassociated with cirrhosis, it also occurs in cases unassociated with cirrhosis either of the liver or pancreas. Examining the records of the connection with the intestines or some chronic suppuration elsewhere in the body—conditions in short leading to more or less chronic destruction of the blood. When now I come to study her material more fully, and with the highest power, to my astonishment I find that where this pigment has not clumped together into too large masses, in the liver cells for example, as again in the abdominal lymphatic glands, there are, in a very large proportion of the ultimate fine masses of pigment, reacting to Perl's test and containing iron, distinct diplococcoid forms or bodies. Of this there can be no doubt. In short, the condition of hemochromatosis is of bacterial origin and, just as Hintze,[40] and before him, von Recklinghausen,[41] pointed out that the slightest case of hemochromatosis presents itself merely a brownish coloration of the intestinal walls, so here we may have a succession of cases in which at first only the intestinal walls and the mesenteric glands become the seat of the deposit of this pigment, and to a slight extent the liver, through cases in which the liver is involved and there is associated or accompanying cirrhosis, to cases in which the pancreas also becomes the seat of this abundant deposit of the minute pigment granules, of modified "corpses" of bacilli in the cells. I have no doubt concerning this; the diagram is a faithful reproduction of a portion of one of these livers of hemochromatosis, from a case described by Kretz,[42] which has come through several hands into that of Dr. Abbott. You will see that whereas in certain regions it is dense and it is impossible to make anything out, there are other parts in the cells where these little diplococcoid bodies definitely take on the reaction for iron.

Where we have *diabète bronzé,* or again extensive cirrhosis of the liver with hemochromatosis but without diabetes, there deposit of this iron is so extreme that certain of the cells, more especially at the periphery of the lobules, become little more than a mass of agglomerated iron-containing pigment, and what is more, this pigment is now to be found in the connective tissue at the periphery of the lobule and, as Dr. Abbott points out, and as others have also concluded, the little masses of pigment indicate the remains of liver cells. In fact, the condition is a very extreme one.

PERNICIOUS ANEMIA.

The nature of this deposit of pigment in the liver in conditions of hemochromatosis is identical with, though more extensive than, that first recognized by Quincke, and of later years more especially dwelt on by Wm. Hunter, which is found in the liver in pernicious anemia. There is the same finely granular nature, the same tendency for the pigment to be accumulated in the cells in the immediate neighborhood of the bile capillaries, and here again there is the same reaction with ammonium sulphid, and by means of Perl's test with potassium ferrocyanid. Examining a series of livers from cases of pernicious anemia, I find in them identically the same condition, namely, that whereas under the ordinary high power, or even the ordinary 1/12 oil-immersion, all that one sees is an irregular massing of fine granules in the liver cells, if one examines carefully and conscientiously by means of a yet higher power of immersion-lens, these irregular granules resolve themselves into irregular clumps of stumpy ovoids, as again of minute diplococcoids, and again into isolated diplococcoid bodies which may or may not show a fine halo round them, situated in the liver cells. Nay more, in advanced cases of pernicious anemia, one finds the same bodies also crowded in the very much swollen endothelial cells. In both positions these take on a reaction for iron, but even when stained for iron, as by Perl's test, the diplococcoid nature can be made out in a large number of the isolated masses on careful focusing.

I do not mean to say that all show themselves as diplococcoids; there are numerous isolated granules as again bodies of a more oval shape, and again certain bodies, roughly the same diameter, which often appear to be definitely bacterial in form. But on careful study the number of double bodies, of dots of the same size, is so remarkable and so frequent that the diplococcoid nature of the granules is their especial characteristic.

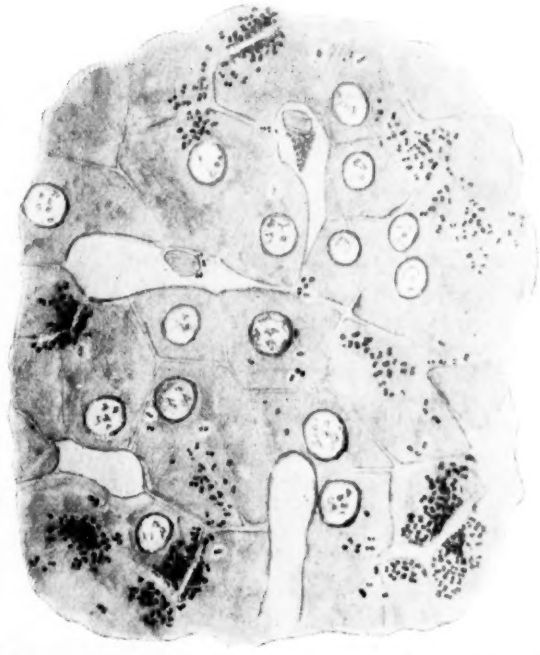

Fig. 2.—Section of liver from case of hemochromatosis (pigmental cirrhosis) stained with alum carmin, then treated with weak hydrochloric acid and later with dilute potass. ferrocyanid solution. Drawn under camera lucida, Reichert 1/18 immersion-lens, ocular 4.

It is now more than a year since my attention was called to the fact that the colon bacillus when virulent is especially liable to set up hemorrhagic inflammation in the lower animals, as again in certain cases in man, so that in hemorrhagic peritonitis we very frequently come across abundant cultures of this form. As Sidney Martin has pointed out, parallel inoculations in lower animals, of the closely allied typhoid bacillus, lead to a non-hemorrhagic disturbance. Thinking over this it occurred to me that very possibly the toxins of the colon bacillus might have some peculiar action on the blood and on the vessels, and by following this train of thought it occurred to me that the toxic substance which Hunter concluded must become absorbed from the upper portion of the gastro-intestinal tract, to explain the pronounced destruction of red corpuscles in pernicious anemia, might possibly be of bacterial origin. The point, I believe first drawn attention to by von Jacksch, and more re-

cently corroborated by Dr. Finley of Montreal, that in typical cases of pernicious anemia there is an absence of hydrochloric acid in the gastric juice, an observation since confirmed by other observers, seemed again to render the abnormal multiplication of bacteria within the stomach extremely probable. With this end in view I suggested to one of my demonstrators, Dr. D. Anderson, that he make a special study of the bacteriology of the stomach in cases of pernicious anemia. This disease is not very frequent, and it is difficult to accumulate any large number of cases, but during the year, Dr. Anderson has studied three of these in the laboratory at the Montreal General Hospital. He has found in all a complete absence of hydrochloric acid, with the presence, however, of considerable quantities of lactic and some butyric acid, and in all three, to my great astonishment, he has obtained by plating pure cultures of the colon bacillus. This colon bacillus has been haunting me these last years, appearing to reveal itself everywhere, and I could hardly believe these results, but Dr. Anderson obtained similar ones in connection with a test-breakfast on one of the patients during life, and was absolutely convinced as regards the correctness of his results; and what is more, on making sections from one of the stomachs, he found numerous diplococcoid forms in the submucous tissue. This I should add was long before I had realized the nature of the pigment in the liver. In order to confirm the result, I asked Dr. Ford to make an independent examination of a case at the Royal Victoria Hospital, under Dr. James Stewart. He gave a test-breakfast to the patient and absolutely confirmed the findings of Dr. Anderson in every respect. In this fourth case plates made from the breakfast gave abundant and pure cultures of the colon bacillus. The form was at first a little abnormal, the colonies were of a more opaque white than usual, but later separate cultures from several colonies gave a perfectly typical form, endowed with motility, and in every respect corresponding to the tests for the colon bacillus.

Thus, then, we have in these cases of pernicious anemia in the first place some chronic inflammatory condition of the mucous membrane of the upper gastro-intestinal tract, leading often to atrophy. In the second place we have the abundant presence of the colon bacillus here in the upper intestinal tract; in the third we have Dr. Anderson's observation of the presence of the modified form of the colon bacillus within the walls of the stomach, and in the fourth, the dead unstaining forms of bacilli—these minute brownish diplococcoid bodies present in the endothelium of the liver capillaries and again heaped up in the liver cells. My own opinion on examining these specimens is that in the majority of cases the bacteria are already dead when taken up into the liver cells, and that we are dealing, as I say, with the corpses of bacteria.

There are very many points in connection with these thoroughly surprising observations which need further elucidation. I have throughout this lecture already referred so frequently to the work of those in my laboratory that I dare say no more; it would be unfair to Dr. Anderson and to Dr. Ford to prematurely publish more concerning their work. There is one point that will probably come to everyone's mind, to which I must briefly refer, that is, why do these colon bacilli in the liver cells and elsewhere in this broken-down form take on the curious brown pigmentation, and actually take up iron? Only last Saturday Dr. Ford showed to me cultures that he had made of the colon bacillus outside the body, which were becoming diplococcoid in shape and which took on this brown staining. He has been able, in short, outside the body, to reproduce both the appearance and the properties of these modified colon bacilli in the tissues. He will later describe his methods.

I am now very careful not to state that the colon bacillus is the primary or the essential cause of either cirrhosis or pernicious anemia; indeed, I think that it is probably not, that in either case there is some primary and underlying factor favoring its entrance into the economy: this, however, I do say, that a study of these conditions does confirm me in the belief that the constant destruction and taking up of excessive numbers of these, and it may be other bacteria of similar pathogenetic powers, does affect the cells and does affect their activity. These observations, therefore,, in my opinion, confirm a belief in the existence of the condition of what I have termed subinfection. Nay more, I believe that in the development of many chronic fibroid conditions, this subinfection will be found to play a definite part. "But," as Plato was wont to remark in a manner strangely and suggestively modern, "this is calculated to afford the subject-matter of another dissertation."

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Late Payment of Doctor's Bill.—The following is an extract from the will of a citizen of Mt. Pleasant, Ia., and unique from the fact that after so many years the doctor's bill has been paid. Our correspondent who furnished us the item says that it so rarely that any one pays a bill of this kind when it can be avoided, he thinks it worthy of special notice, with which our readers will agree. The extract reads:—"Bejamin Dudley, of Lexington, Ky., saved my life by a surgical operation in the year 1837, and by giving me medical attention for two months. I had nothing wherewith to pay the doctor for his services, but promised him as soon as I was able to pay him I would do so. His usual charges in such cases would be $500. I did not feel able to pay that debt for about thirty years. Since then I have neglected to pay this debt which I justly owe, with 6 per cent. interest until paid. Dr. Dudley having died it will be due his heirs."

NASO-PHARYNGEAL ADENOIDS AS A CAUSATIVE FACTOR IN EAR DISEASES.*

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Among the most interesting cases that come before the otologist are those pertaining to postnasal vegetation affecting the hearing, and there are few patients to whom more satisfaction can be rendered than to those so affected. Adenoid vegetation seems not to be restricted to countries, to climates, to sex, to color or race of man. Dr. William Meyer gives the results of his collected evidence of the existence of affections of adenoid growths in various parts of the world, and in various races of man. He says that in Greenland, in 60 Esquimaux children between 6 and 14 years of age Helms only found 16 free from adenoid vegetation. In North Dakota Quarry found adenoid vegetations frequent among the native tribes of Indians, but the growths were very little developed in adults. Cantley of Hongkong reported that native Chinese of the Mongolian race, as also those belonging to the mixed Chinese-Portuguese race, frequently suffer from them, while in Bangkok, Denietzer rarely found the disease among the native Siamese. Meyer concludes that adenoid vegetations are often to be found in varying degrees of frequency in at least three parts of the world, viz., Europe, America and Asia. The Mongolian race is almost as much prejudiced as the Aryan. A cold climate seems more favorable to their development than a warm one. Arslan of Padua, commenting on the frequency of adenoid vegetations in Italy, states that of 300 children examined in schools in Padua, he found the growths present in two-thirds of them. He attributes the preponderating rôle to heredity, a number of his patients showing that their antecedents presented exactly the same symptoms. Balme, who collected statistics on adenoid growths considered as a sign of degeneracy, in examining backward and degenerate children at the Van Cluse Colony, found that of 113 children examined 56 suffered from adenoid vegetation or enlarged tonsils or most frequently both lesions simultaneously. I agree with Meyer, Professor Stoker, Lennox Browne, and others that postnasal growths are just as common among the best classes of society as in the poorer.

Let us consider first what nasopharyngeal vegetation is. It is a hypertrophy of the lymphoid tissue situated in the vault of the pharynx bounded on either side by the orifice of the Eustachian tube, and presents on its surface several vertical furrows which partially subdivide it. The structure covers the roof of the nasopharynx back of the septum, and extends backward on the posterior wall while prolongations are often met with in the fossæ of Rossenmueller and even in the orifices of the Eustachian tubes. Many writers have impressed me by the frequency with which they found various forms of middle ear disease to depend on morbid conditions of the nasopharyngeal mucosa, and it is my opinion, based on several years' experience in the Illinois Charitable Eye and Ear Infirmary and in private practice, that the main factor in producing both suppurative and non-suppurative inflammatory conditions of the tympanic and Eustachian mucous membranes is the presence of naso-pharyngeal adenoids or the condition of the postnares consequent to their removal or absorption. The nasopharynx is an important cavity to the ear, by its relation from the nose through the Eustachian tube, and morbid conditions there readily exert an injurious influence on the ear. Adenoid vegetation may produce inflammation of the middle ear: 1, by constant irritation on account of the obstruction to the circulation of the blood by pressure; 2, by blocking the orifices of the Eustachian tube, partially or completely; 3, by their injurious effect on the general economy of the child and particularly the nerves of special sense; 4, by leaving a postnasal catarrh as a sequela, which sooner or later establishes some form of middle ear disease.

Blake advocates the theory that the first stage of inflammation, hyperemia, is produced in the middle ear by an interference with the return circulation, owing to the pressure exercised by the adenoid mass on the pharyngeal veins and those of the deep-seated tissue.

In children who suffer from adenoid vegetations the hearing is generally very sensibly impaired, and it is the common thing for a child so affected to have questions repeated often and in a louder tone of voice, say nothing of earaches and discharge from the ears. In many cases the Eustachian tube is completely blocked by dry secretions of the postnares. I have observed diminution of power of hearing on the side where the adenoid existed. On the opposite side where the postnasal space was clear the hearing was normal. I have seen cases where the hearing was seriously impaired and the drum membranes normal in appearance, yet with safety I assume the faulty hearing to be dependent on the growths in the nasopharynx. Mr. Bosworth, I believe, agrees with me in this statement.

Mouth-breathing, the most prominent objective symptom of the children affected with adenoids, has an important etiologic bearing on the subject. In this form of respiration the upper part of the lungs is never normally expanded, a fact which can be readily demonstrated by observing the child with normal respiration and one with the sucking respiration of mouth-breathers. The mouth-breather is usually found shallow through the upper part of the chest, and with very small lung capacity. The breather does not inhale sufficient air; the blood, therefore, is not sufficiently oxygenized and is surcharged with carbonic acid. This excess of carbonic acid retained in the blood causes the lassitude, headache, stupidity and sleepiness commonly met with in mouth-breathers, and gradually renders the nerves of special sense less active and responsive to stimuli. This excess of carbonic acid and lack of oxygen, I also believe to be the cause of loss of appetite, malnutrition and general cachexia so often found accompanying mouth-breathing. We frequently meet with children affected with adenoids, who are not mouth-breathers, and these children are plump, well-developed and of healthy appearance, although they usually have some ear complication.

Lennox Browne found that not only were these growths where the tonsils were not enlarged, but that in most cases of deafness formerly considered due to enlarged tonsils there was coexistence of adenoids; that failure to cure deafness after tonsillotomy would be less frequent if the vault of the pharynx were always explored and cleared of additional lymphoid overgrowth. It was also probable that adenoids do not disappear at so early an age, and several cases are quoted in which they

*Read before the Sixth International Otological Congress, London, Aug. 9, 1899.

were present and were the cause of deafness in patients over 21 years of age.

Alderton believes that disease of the nasopharynx is directly causative of middle ear disease in from 35 to 88 per cent. of all cases. White states that out of 565 cases treated for nasopharyngeal affections, he found disease of the middle ear in 197. Of the whole number, 134 had hypertrophy of the third tonsil, in which 62 of them, or 20 per cent., had impaired hearing. Bronner, before the British Medical Association, stated that on examination of 250 school children he found 20, or 8 per cent., suffering from adenoid vegetations. Eighty-five per cent. of 125 cases carefully examined showed symptoms of past and present affections of the middle ear. Laveand calls attention to cases in which adenoid vegetations produce total deafness in children. He considers that a cause of deaf-mutism, and says the removal of the vegetations may act as a cure.

A number of cases of postnasal growths in the newborn have been reported, and Sendziak believes that many children develop adenoids in the first years of their lives, and frequently become deaf from this cause, and are not able to learn to speak or forget what they do know.

According to many authors it has been shown that adenoids are much more frequent among deafmutes than among other children. In my examination of 26 children for deaf-mutism. I found only 4 free from postnasal adenoids; 16 of those examined showed marked facial deformity from mouth-breathing.

Frankenberger cites many authors who have investigated the frequency of adenoid vegetation in normal children: Meyer, 1 per cent. in 2000 cases; Schmiegenow 5 per cent. in 581 examinations; Wroblewski, 7 per cent. in 650 children; Kafemann, 9 per cent. This does not show a very large percentage, but when we arrive at the deafmutes, we find Lemcke reports 58 per cent.; Wroblewski, 57.5 per cent.; Peisson, 58 per cent.; Frankenberger, 59 per cent.; Albrich, 73 per cent.

The principal function of the Eustachian tube is to supply air to the middle ear. This equalizes the atmospheric pressure on the outer and the inner sides of the drumhead. If the postnasal cavity is blocked with the presence of adenoids, and we have a mechanical obstruction of the orifices of the Eustachian tube, either from the dried secretion or proliferation from the adenoids, the air-supply to the middle ear is partially or completely cut off. This inequality of atmospheric pressure causes a contraction of the drumhead, and such a condition will to some extent cause deafness, which will increase as the further pathologic process develops ankylosis of the ossicles and atrophy of the tympanic membrane.

Wright Wilson reports 235 cases which he had treated for postnasal vegetation. He found the proportion of sex about equal. Ten cases presented deafness as the only symptom. Wilson points out the importance of exploring the nasopharynx in every case of deafness.

Halbies found adenoids to be the cause of inflammatory process in the middle ear in 53 per cent.; Meyer, 78.8 per cent.; Hartmann, 74.2 per cent.; Ingals, 34 per cent.; Braislin, 58 per cent.; Max Schaefer, Bremen, reports a series of 1000 cases of adenoid growths of the pharynx treated by himself. Of these, 768 were treated surgically, 99 with the galvanic cautery, 81 by local applications, 52 were merely observed. In 467 cases there was deafness; in 107 otorrhea; 20 were improved and 331 cured.

I coincide with Harrison Allen and Sisson, who hold that there are many children in homes for the feeble-minded and idiots all over the world who are affected with this disease, and who by a comparatively trifling operation could possibly be restored to usefulness and their families. Interference with the condition may or may not complicate the case. Much depends on the relation of the Eustachian orifice to the vault of the pharynx. If the orifice be situated high up, a comparatively small amount of growth will block it, and cause an auditory trouble; but if it be low down, there may be extensive vegetation without the Eustachian tube being implicated. It would be obvious to mention every analogous case reported of deafmutes who, after the removal of adenoid vegetations, gave evidence of hearing and began to speak some words.

The general belief that adenoid vegetations are never present after the age of 30 is contradicted by Conetoux of Nates, who operated on a man of 65 to cure a marked unilateral deafness. Adenoids are apt to become smaller and more dense as age advances, yet I have found vegetations in ages above 60, and frequently between 30 and 40. They do not differ histologically from adenoids in children. It is not uncommon to observe these formations in the aged who are hard of hearing.

Notwithstanding all the writings of the last ten years, I can not say that the pathologic enlargement of the lymphoid tissue of the nasopharynx has received sufficient attention in the world's medical text-books.

If the symptoms of these growths were more generally recognized by the family physician, and their removal accomplished, we would not find so many chronic suppurative and non-suppurative inflammations of the middle ear with the history dating back to an attack of diphtheria, scarlet fever, measles, or other fevers. I believe that these obnoxious growths are of great importance to the health of the child, not only of the present, but of the future development of all faculties of children.

As to treatment, it is never too early nor is it too late. At the first recognition of existing growths, the operation should be performed at once, by whatever method best suits the case in hand. I do not believe in chemical cauterization or caustics, nor even a thermal cautery, especially in children, where it requires so many séances to accomplish it. Curetting is the only true basis of treatment and trustworthy of consideration. It may be done with Trautman's, Hartman's or Gottstein's curette, Meyer's ring knife, Lowenburg's forceps, and other various modifications. Such operations are recommended by Richard Hovell, Field, Lennox Browne, Holitzer, Lowenburg, Trautman, Bronner, Goldstein, Rousseaux, and many others. I am not a believer in general anesthetics in children over the age of 12 years, as local anesthesia after this age makes such an operation absolutely free from danger; but there are some cases where a general anesthetic must be administered, especially in refractory children and nervous adults. In children it is advisable to anesthetize in a sitting posture, and I prefer bromid of ethyl to any other of the numerous anesthetics. It is easily administered, anesthesia is quickly produced, and is of sufficient duration for the expert operator to remove both tonsils and adenoid vegetation, if necessary. The child recovers from the anesthetic quickly enough to clear its throat and prevent strangulation from hemorrhage. As it is common to find children suffering from adenoid vegetations to be constitutionally affected, restorative tonics, nutritious food and plenty of outdoor fresh air are indicated after the operation.

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THE PAPILLITIS ACCOMPANYING BRAIN TUMOR.*

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The papillitis accompanying brain tumor must, according to Unthoff, have reached an elevation of at least two-thirds of a millimeter, before it can be properly referred to as choked disc, and before it can be properly classified under the latter term. Although bilateral in the vast majority of cases, it is often more intense on one side than on the other, and may be unilateral. This form of papillitis, known as "choked disc," may be briefly described as follows: It is of grayish-red color, presents diffuse cloudiness, radiating stripes, knob-like elevation, borders indistinct, veins wide and tortuous, arteries small, vessels hidden in part, abruptly bent at the border of the papilla, while hemorrhages and white spots appear on the disc and in its immediate vicinity. The diameter of the papilla may be three times as great as the normal diameter. In high grades the borders of the disc may be entirely obliterated.

Macroscopic conditions.—An ampulliform swelling of the optic nerve sheath immediately back of the globe, the distension of the sheath extending for a varying distance along the nerve, is present in by far the greater number of cases. This swelling is due to the presence of fluid in the intervaginal space. Leber and Broadbent[1] have observed such ampulliform distension without papillitis. Papillitis also occurs in a few cases without marked distension of the optic nerve sheath. In some cases the optic nerve itself appears to be larger than normal.

At the inner margin of the sclera, at the foramen scleræ, the diameter of the nerve is narrowest; immediately within the opening the tissue of the disc expands, crowding the posterior layers of the retina away from the margin of the choroidal and scleral opening, and the disc forms a crater-like elevation which reaches a height of 0.5 to 2.5 mm. The depression in the center corresponds to the physiologic cup.

Microscopic appearance.—The microscopic conditions present in five cases examined by the writer are as follows, the elevations one to two millimeters:

CASE 1.—No ampulliform dilatation exists. The nerve-fibers present but little change either in the papilla—other than change of direction—or in the nerve trunk. Great distension of veins and diminution in the size of the arteries at and beyond the lamina cribrosa, is evident. The walls of the vessels are not changed, and there is no increase in the number of capillaries. There are few minute hemorrhages near the surface and in the center of the papilla; hemorrhages into the deeper layers of the retina in the immediate vicinity of the disc, evidently from capillaries. Moderate small cell infiltration about the walls of the vessels is evident, as is found in infectious inflammatory processes.

Marked serous edema of the tissues of the disc extends into the nerve-fiber layer of the retina, to a distance of 1.5 to 3 mm. from the margin of the foramen choroidæ. The connective tissue elements of the disc immediately above the choroid are greatly distended, pushing the deeper layers of the retina away from the margin of the choroid—which membrane is not disturbed—for a distance of .5 to .75 mm. The ganglion cells are intact, the pigment layer of the retina much disturbed, and there are numerous small cells in the intervaginal space.

CASE 2.—The intervaginal space is moderately distended, and there is simple extensive edema of the tissues of the disc, but no small-cell infiltration. The optic nerve trunk is edematous. The deeper layers of the retina—below the ganglion cell layer—are pushed away from the margin of the choroid at the foramen choroideæ, by the edematous tissue of the disc. There is no appreciable change in nerve-fibers, other than a moderate change in direction. The veins anterior to the lamina cribrosa are dilated, the arteries are reduced in size, and posterior to the lamina cribrosa the central artery appears to be slightly enlarged; it is certainly not smaller than normal. The ganglion cells are intact.

CASE 3.—There is marked distension of the intervaginal space, the nerve-fibers apparently unchanged, except in their course, the arteries reduced in diameter and the veins distended in the papilla and at the cribriform plate. Posterior to the cribriform plate the arteries are not reduced in size, but appear to be larger than normal. There are some small hemorrhages from capillaries in the ganglion cell layer in the vicinity of the disc. A few foci of degeneration and small-cell infiltration are found at the apex of the papilla, and some small-cell infiltration posterior to the lamina cribrosa. The ganglion cells are less numerous than normal, and some of those that remain are undergoing degenerative changes. The disturbance in the retina at the foramen choroideæ is as described in the preceding cases.

CASE 4.—This is as in Case 3, with the following exceptions: There are a number of small hemorrhages into the outer reticular and outer nuclear layers of the retina in the immediate vicinity of the disc, and the nerve trunk posterior to the lamina cribrosa is edematous.

CASE 5.—Enormous distension of the intervaginal space exists. The artery and vein posterior to the lamina cribrosa are apparently smaller than normal. At and anterior to the lamina, the arterial trunks are small and the veins engorged. This was the only case in which there appeared to be constriction of the artery posterior to the lamina cribrosa. The enlargement of the papilla is apparently due to simple edema. The edema of the nerve trunk is more pronounced between the nerve-fiber bundles, but there is evidence of limited edema of the bundles themselves. The retina is pushed away from the foramen choroideæ by the edematous tissue of the papilla. The ganglion cells are reduced in number and undergoing degenerative changes. There is no appreciable small-cell infiltration.

Summary.—Distension of the intervaginal space exists in all but one case, infiltration of the small cells in the sheath in one case and in the papilla—not very marked—in two cases. The arteries are small at and anterior to the lamina cribrosa in all cases, and small posterior to it in one case. The veins are dilated anterior to, and reduced in diameter posterior to, the lamina cribrosa, the ganglion cells undergoing degeneration in two cases. The retina is pushed away from the choroidal foramen and the retinal pigment disturbed in all cases. The choroid is intact. There are hemorrhages from the capillaries.

In three cases of papillitis which developed a few days before death, Ulrich[2] found edema of the nerve trunk and compression of the retinal vessels within the nerve.

It must be conceded that in the papillitis accompanying brain tumor there are two varieties which merge imperceptibility, the one into the other. The typical example of one form is a simple edema of the disc. The typical example of the other form is the violent inflammatory affection of the nerve and disc sometimes extending to the retina. Both may be accom-

*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

panied by the ampulliform distension of the intervaginal space.

Effect on Vision.—Diminution in vision is sooner or later the rule in papillitis, but it may be present for years without diminishing the acuteness of vision. Mathewson[3] reports a case of 3½ years' duration in which the vision was unimpaired. Knies [4] mentions a case in which sinuosity of the vessels and green blindness was all that remained after recovery from papillitis. The writer observed a case of double papillitis which had existed for some months before it was seen by him. The papillitis persisted for 1½ years and then subsided, resulting in total loss of vision in the right eye, disc pale, and vision of 20/30+ in the left eye with disc of almost normal color. The papillitis was apparently of equal severity on both sides.

Various forms of scotoma may be present, sector-shaped defects, central scotoma, absolute or relative; color defects; concentric narrowing of the fields of vision; complete blindness.

The diminution of vision—direct effect by involvement of chiasma, tracts, or intracerebral course of optic nerve fibers by the neoplasm or by pressure, not considered—is due to degenerative processes in the papilla and to retinal changes consequent on impairment of nutrition to the anterior layers of the retina, particularly to the ganglion cell layer, from constriction of the vessels and from hemorrhage. The subsequent regressive changes, which are accompanied by the contraction of inflammatory products, are also factors. It is very probable that sector-like defects are in many cases occasioned by an interference with the nutrition to the corresponding part of the retina by blocking of the arterial branch, death of the ganglion cells resulting. The great variations in visual acuity are due to varying intracranial pressure on tract or chiasma.

Theories.—Von Graefe's[5] theory regarding the production of choked disc was the first to attract much attention. It was essentially that of a venous stasis occasioned by obstruction to the return of venous blood from pressure on the cavernous sinus. This theory was disposed of by Sesemann[6], who demonstrated rich anastomosis between the superior orbital vein and the facial vein. Von Graefe also advanced the hypothesis that a neoplasm in the brain sets up a meningitis which in turn produces a descending neuritis. It is well known that in many cases there is no meningitis, also that neuritis may improve and may again relapse.

The theory of the production of papillitis by pressure due to dropsy of the optic nerve sheath accompanying increased intracranial pressure arose, after it was experimentally demonstrated by Schwalbe,[7] Schmidt,[8] and Manz[9] that the subvaginal lymph space was in direct communication with the subarachnoid space and could be readily injected from the cranial cavity.

The theory is well set forth by Fuchs,[10] as follows: "In consequence of accumulation of fluid in the intervaginal space, a stasis of lymph occurs in the trunk of the optic nerve itself, particularly in the region of the lamina cribrosa, the lymph spaces of which communicate with the intervaginal space. The edema of the lamina cribrosa causes a compression of the central vessels—a compression which makes its influence felt sooner and to a higher degree in the central vein of the optic nerve than in the central artery. As there is constantly pouring into the papilla through the artery a quantity of blood which can not be completely carried away again by the contracted central vein, venous engorgement of the optic nerve and consequently swelling of the latter are developed. This swelling of the nerve leads to its incarceration at that spot where it fits so tightly in the foramen scleræ, and consequently extreme edema develops in the strangulated papilla. Neuritis having this origin is hence not to be regarded so much in the light of an inflammation proper as of an inflammatory edema, and is accordingly designated by the name of engorgement neuritis, or choked disc."

Shulten[11] claims to have injected substances into the cranial cavity, causing increased intracranial pressure, after which he found signs of beginning papillitis.

H. Jackson[12] and Annuske[13] have shown that the conditions that produce hydrocephalus do not produce papillitis so frequently as does brain tumor.

Leber's hypothesis is that the products of the tissue metamorphosis of new growths mingled with inflammatory transudations act as irritants, enter the sheath of the optic nerve with the cerebrospinal fluid, and give rise to a neuritis.

Deutschmann[14] rejects the theory of Schmidt and Manz, and holds that papillitis is an inflammatory condition like the neuritis of meningitis and albuminuria. Distension of the optic nerve sheath by non-irritating fluids failed to produce papillitis, but the veins became engorged and the arteries were reduced in size. Some retinal hemorrhages also occurred. Some optic neuritis was set up when fluid containing tubercle bacilli was carried into the subvaginal space. Deutschmann holds that the lymph currents of cerebrospinal fluid are centrifugal, and that increased pressure favors the process. What the irritants that produce papillitis are is not determined. They are either chemical or parasitic. Deutschmann is of the opinion that they are parasitic. He thinks that the tissue in the immediate vicinity of a new growth is favorable to the development of bacteria. In his examination of pathologic material he always found that compression of the vessels, when it occurred, took place anterior to the lamina cribrosa and inferred that it was the result of the papillitis, not the cause.

Examination of pathologic tissues leads us to the following conclusions: 1. In many cases of papillitis there is little evidence of true inflammation, but the condition is that of an engorgement edema. 2. In a number of cases there is evidence of marked inflammation. To the former class belong the cases of greatest elevation of the papilla, the typical *Stauungspapilla*—to the latter belong the cases of slight elevation, intensely injected disc, with a tendency to extension of the process into the retina, hemorrhages, plastic exudation, etc.—the true inflammatory papillitis.

Frequency of occurrence of papillitis in brain tumor.—Oppenheim[15] estimates that optic neuritis is present in 82 per cent. of the cases of brain tumor. Gowers is of the opinion that it is present in four-fifths of the cases. Knapp[16] found 11 cases of neuritis and 2 of atrophy in 18 cases of intracranial tumor—72.2 per cent. Annuske and Reich found neuritis present in 95 per cent. of the cases examined. Dana[17] estimates it at 80 per cent. In Bernhardt's table of 485 cases, an ophthalmoscopic examination was made in 154 cases, and choked disc found in 104—66.2 per cent. In 601 cases collected by Martin,[18] the fundus was examined in 590 and optic neuritis or atrophy found in 77.3 per cent. In 27 cases described by Bramwell, [19] 24 were examined ophthalmoscopically and 20 found to have, or to have had, optic neuritis—83 per cent. The averages of those given would be 78.2 per cent., which is probably very near to the actual frequency.

Relative frequency in tumor of various parts of the brain.—From all of the cases that I have been able to collect in the limited time at my disposal, with the addition of cases observed by myself, I have prepared the following table giving the percentage of choked disc or neuritis in the cases examined with the ophthalmoscope. Cases tabulated as amblyopic or with optic atrophy, although many of the latter were probably post-neuritic, have been omitted, except where it is stated that the atrophy was post-neuritic.

Location.	No.	No optic neuritis.	Unilateral.	Double optic neuritis.	Per cent.
Frontal lobes	64	12	4	48	80.3
Temporo-sphenoidal	24	9	0	15	62.5
Motor area	113	46	3	64	59.2
Parieto-occipital	33	4	3	26	87.8
Brain surface	13	4	0	9	69.2
Centrum ovale	58	17	2	39	70.7
Corpora quadrigemina	19	0	0	19	100
Basal ganglia	36	15	0	22	61.1
Multiple	39	11	2	26	46.6
Corpus callosum	12	7	0	5	41.7
Pituitary body	18	9	0	9	50
Pineal gland	1	1	0	0	0
Crura	5	1	0	4	80
Pons	50	20	5	25	60
Cerebellum	164	21	4	139	87.2
Base of cranium	10	1	0	9	90
General	10	3	4	11	83.3
Totals	677	180	27	470	69.4

Diagnostic importance.—The following quotations from the writings of a number of prominent neurologists indicate the diagnostic value of optic neuritis from their point of view. Gowers[20] says: "The most common causes of optic neuritis are encephalic diseases, and of these, tumor is incomparably the most frequent. Neither the nature, size nor the seat of the tumor appears to exercise much influence on the occurrence of neuritis." Otto Schwartz says: "The most important symptom in brain tumor is optic neuritis, double sided and not combined with retinitis." Dana's[21] view is that: "Optic neuritis is one of the most frequent and important of all of the general symptoms of brain tumor." C. P. Knapp[22] says: "Optic neuritis is the most important general symptom of an intracranial growth," and Oppenheim[23], *Die Stauungspapilla ist zweifellos das wichtigste Symptom des Hirntumors.* The view of Knies is: "Typical choked disc is almost the most important symptom in the diagnosis of brain tumor of whatever kind or wherever situated."

The causes that produce papillitis may be classified as follows:

Local: Diseases of ethmoidal, frontal and sphenoidal sinuses, cellulitis of orbit, periostitis of orbit, wounds of orbit, tumors of orbit, thrombosis of the orbital veins and their tributaries, wounds or tumors of the optic nerve, wounds of the globe.

Intracranial: 1. Meningitis: traumatic, tubercular, syphilitic, pyemic, epidemic cerebrospinal. 2. Tumors. 3. Abscess. 4. Aneurysm.

General Causes: Acute febrile diseases, emphysema of lungs, albuminuria, uterine diseases, influenza, anemia, diabetes, malarial poisoning, inherited or acquired syphilis, poisoning from lead, leucocythemia, pyemia, acromegalia.

The early stage of papillitis produced by any of the above causes, unaccompanied by other pronounced symptoms could not be distinguished from the early stage of the papillitis accompanying brain tumor, but after papillitis is established its appearance is sufficiently characteristic to enable the observer to eliminate many of the causes enumerated.

Causes that may produce a papillitis indistinguishable from that produced by brain tumor may be classified as follows:

Local: Tumors of the orbit, thrombosis of the orbital veins, tumors of the optic nerve and diseases of ethmoidal, frontal and sphenoidal sinuses.

Intracranial: 1. Meningitis: traumatic, tubercular, syphilitic (?), epidemic cerebrospinal. 2. Abscess.

General Diseases: Acute febrile diseases, influenza, inherited or acquired syphilis, leucocythemia.

In the absence of other pronounced symptoms the papillitis would be of no diagnostic value, but it seldom happens that we are not able to exclude the local and general causes mentioned, and the diagnosis may be narrowed down to a differentiation between a papillitis caused by tubercular or syphilitic meningitis, abscess or brain tumor. If careful histories of the cases are taken, meningitis and abscess may be eliminated in almost all cases, but in a small number it will require long observation to determine the cause.

Papillitis of the choked disc variety, with accompanying confirmatory symptoms, is of great diagnostic value in brain tumor, but when not associated with confirmatory symptoms it is of little value.

Localizing value.—If we consider the localizing value of neuritis, whether unilateral or double, in cases in brain tumor, a glance at the first table will convince one that the papillitis alone is of no value whatever as a means of localizing the tumor. Tumor of the corpora quadrigemina gives the highest percentage—100 per cent.; next comes tumor of the parieto-occipital region—87.8 per cent—with tumor of the cerebellum a close third—87.2 per cent. Tumors of other parts of the brain follow so closely, however, that it would be folly to venture a guess as to location from this symptom alone.

In regard to the signification of unilateral papillitis, the following table, which is that of Martin with some additions, indicates its diagnostic value.

Location.	On side of lesion.	On opposite side.	Total.
Frontal	10	2	12
Temperosphenoidal	5	0	5
Motor	14	3	17
Parieto-occipital	2	4	6
Multiple	2	0	2
Basal ganglia	1	0	1
Centrum ovale	1	2	3
Corpora quadrigemina	1	0	1
Pituitary	0	1	1
Pons and medulla	4	2	6
Cerebellum	1	2	3
General	..	1	1
Total	41	17	58
Per cent	70.7	29.3	..

The greater frequency of the occurrence of unilateral optic neuritis on the side of the tumor is conclusively shown by the table, but we find that this fact is of no importance except in the frontal, temporo-sphenoidal and motor portion of the cerebrum. In tumor occurring in these portions of the brain, the proportion is as 4 to 1 in favor of the tumor being on the side of the brain corresponding with the neuritis.

In regard to the kind of tumor, little can be determined by the papillitis. It is known that papillitis is most

often absent in tubercular tumors, most frequent in glioma and cysts.

The size of the tumor appears to have no bearing on the development of papillitis.

Unilateral papillitis may be produced by direct implication of the nerve in the new growth, but this is only observed in a minority of the cases.

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DISCUSSION.

DR. G. E. DE SCHWEINITZ, Philadelphia, Pa.—The interesting microscopic observations of Dr. Weeks are a very important advance in our knowledge of this interesting topic. I have nothing to say in regard to the theories which he has briefly reviewed, but I would like to add a word as to the frequency of papillitis in brain tumor. We are all acquainted with the papers of Lawford and Edmunds, who analyzed 107 cases, and it is interesting to observe the areas of the brain in which tumors may exist without papillitis. In general terms tumors toward the convexity of the brain do not furnish as many cases of papillitis as tumors of the base. Tumors of the cerebellum nearly always produce papillitis and, indeed, fully 80 per cent. of intracranial growths sooner or later cause optic neuritis. Tumors of the motor area do not always cause papillitis, as is shown by a recent case which I have observed and in which a tumor as large as a hen's egg existed in the motor area without choked disc. Optic neuritis is said not to occur with tumors of the medulla. I examined one patient, a woman, with all the signs of hysteria and with normal eyes, and in whom after death we found a tumor of the medulla as large as a small marble. It is an interesting fact that many cases of tumor of the cerebellum produce not only choked disc but early loss of vision. Choked disc *per se* does not lead one to diagnose brain tumor, but taken with other signs it is of paramount importance.

DR. H. M. STARKEY, Chicago—I wish to call attention to the usefulness of the X-ray in the diagnosis of these cases. It has not been my fortune to see *very* many such cases, but it happened recently that two patients were brought to me on the same day, both of whom presented double-choked discs. In each I advised the use of the X-ray, and in each the skiagraph showed changes in the brain. In the one, the skiagraph showed but a faint shadow in the center of the frontal lobes, while in the other there appeared to be an extensive thickening of the meninges, or an infiltration of the brain substance or of the bone throughout the whole supraorbital and anterior frontal region. In the first an operation was performed and a cyst about the size of an English walnut was found in the left anterior lobe of the brain, at the point indicated by the faint shadow in the radiograph. The fluid or gelatinous contents of the cyst explained why the skiagraphic shadow was not more definite. This patient also illustrated the well-known fact that in many cases of brain tumor we may not see choked discs unless the eyes are frequently examined. I had seen this patient about ten days before, and a careful examination showed nothing save a slight edema and a slight tortuosity of the veins. Within a week or ten days the swelling had amounted to 3 mm., but soon subsided and the case presented an appearance almost like that of albuminuric retinitis, and within two or three weeks very little change from normal was to be noted, so if the case had not been seen at a favorable time, we might have entirely overlooked this symptom. The vision was practically normal throughout. The second patient was a boy 9 years old, totally blind for two or three weeks before I saw him. He was so ataxic and uncertain in his gait that he could scarcely walk. No operation was performed, but his physician informs me that there has been a gradual improvement in all the symptoms except that there has been no return of sight.

In the first case the cyst refilled within a few weeks, requiring another evacuation, soon after which he passed from my direct observation. The cyst filled again and a large cerebral hernia occurred. He died in about four months after the first operation. Unfortunately no necropsy was permitted. It was stated that choked discs with great swelling recurred before death.

DR. W. L. PYLE, Philadelphia—I would like to ask the essayist to discuss the subject of arterial pulsation as a means of a differential diagnosis between papillitis from brain tumor and from nephritis.

DR. H. GIFFORD, Omaha, Neb.—It should not be forgotten that because the patient doesn't die within a reasonable length of time we need not necessarily change our diagnosis of brain tumor with papillitis. I remember a case of choked disc in a man who, after years of good health finally died of pneumonia, and at the autopsy they found evidences of an old brain tumor which had undergone degeneration and partial resorption. I have had several cases of pronounced choked disc, and every sign of a very serious nervous lesion where I felt that I must give the gravest prognosis. One of these patients, a young girl, who is now teaching school, a year and a half since I first saw her, has gotten rid of her staggering gait and other severe symptoms, though she still has some uncomfortable feelings at the back of the head. I have had one or two other cases where the patient has apparently gotten well, but it is a question whether they were not after all cases of brain tumors. As to the question of whether choked disc is a true inflammation, as Leber would have us believe, or merely an edema, it seems to me that the clinical evidence is worth considerable. Where you have an apparent inflammation of the nerve trunk, that exists for several months or a year, and the patient eventually recovers with a vision of 20/30 as in one of the cases reported by Weeks, or where the patient is practically blind for several months and then recovers good sight, as in a case seen by me and another reported by Macewen, it is strong evidence of something akin to mechanical edema. An inflammation so long and severe would certainly do more permanent harm. Just why cerebellar tumors produce more papillitis is best explained perhaps by the case of Hahn. He reported a case in which the cranium was trephined and the brain punctured, and the patient lived for a year, without improved vision; after death a cyst was found, which had pressed on the veins of Galen, just as a cerebellar tumor *might* do.

DR. C. H. WILLIAMS, Boston—In this connection I would like to mention two cases—one where there was a papillitis in each eye, but no disturbance of vision for a period of three years. The young woman kept on with ordinary work and the family was skeptical of the diagnosis, but after a short illness she died and a tumor of the cerebellum was found at autopsy. In the second case I have watched the vision carefully for more than a year and the patient had, with glasses, normal vision in each eye. There has been during all that time a marked papillitis with no other change in the fundus. She has occasional headaches and attacks of dizziness, especially on getting up quickly. She is going on with her work as a school teacher, and we are simply watching for developments. You may have normal vision and normal brain function for a very considerable period.

DR. C. F. CLARK, Columbus, Ohio—I wish to call attention to the liability of error in making the diagnosis by the ophthalmoscope, by the men who are practicing neurology and who are not as skilled with this instrument as the ophthalmologist. I have under observation a patient who has been for some months under the care of two of New York's best neurologists, both of whom pronounced the case one of brain tumor. Three ophthalmologists have seen the case and all declare that there is no papillitis, but there is simply a large number of vessels about the disc, some of which are tortuous, and this, with the history given by the patient's friends, led to the diagnosis and changed the whole course of the patient's life and that of the family as well.

DR. HUIZINGA—About a year and a half ago I was called out of the city to see a man who had suddenly gone blind. Examination showed complete optic nerve atrophy in one eye and a condition of choked disc in the other. I found that he had been on a spree for a few days and came home blind. A diagnosis of brain tumor that had existed for some time was made, and he had perhaps been blind in one eye for a long time without knowing it, until as a result of this spree, perhaps, a rupture of the blood-vessel had brought on the sudden blindness. The autopsy finally established this theory.

DR. A. A. HUBBELL, Buffalo, N.Y.—Dr. Weeks referred to

the etiology of choked disc, and I, for one, believe that most of these cases are inflammatory in character though there may be, now and then, a case where it is a mechanical edema. I have been led, during the last year or two, to a consideration of the effects of toxic materials in the blood in producing inflammation. There certainly can not be an inflammation without cause, and in many of these obscure cases there is a toxin, the product, perhaps, of processes in the intestinal tract, or other parts of the body, that has a special action on the optic nerve. It is coming to be believed more and more that malignant disease—and most brain tumors are malignant—is of parasitic origin, and is it not possible that it also generates some toxic substance which produces the optic neuritis so often seen in connection with brain tumor?

DR. J. E. WEEKS, New York City—What particularly impressed me in the examination of the pathology of these cases was the fact that the ganglion cells in certain portions of the retina were destroyed, and it seems to me that the contraction of the field of vision and the concentric scotoma met with are due to destruction of the peripheral neurones rather than any direct effect on the nerve-fibers.

In regard to the diagnostic value, the study I have made has convinced me that the presence of a tumor in any particular part of the brain is not determined by the papillitis. We find papillitis most frequently accompanying tumors affecting the corpora quadrigemina, next with those of the temporo-sphenoidal lobe and next with those of the cerebellum. In 18 cases of tumor in the pituitary body there was papillitis in 50 per cent. There is, in all probability, some diagnostic value to be attached to cases where the papillitis is most marked in one eye. In 14 cases of tumor of the frontal lobe, 12 showed papillitis on the side of the tumor and 2 on the opposite side. In tumor of the cerebellum the presence of papillitis, more marked on one side than the other, is of no value whatever. I am not familiar with the study of the arterial pulse in cases of papillitis.

The question whether the condition of the optic nerve is an edema or an inflammation has engaged my attention a great deal. I am convinced that, in certain cases, it is an edema and not an inflammation. In the examination of five cases I found no evidence of inflammation.

DIAGNOSIS AND TREATMENT OF MIDDLE EAR DISEASES,

WITH A NEW DIAGNOSTIC SYMPTOM OF EUSTACHIAN STRICTURE.*

BY JAMES H. FARBER, M.D.

DAYTON, OHIO.

What are we doing for middle ear troubles? Are we doing all that is possible? Are results of treatment satisfactory to ourselves and our patients? Have we made our diagnosis in a given case and decided on our line of treatment on the patient's first call, and is this satisfactory to ourselves?

If we are satisfied to be honest with ourselves and our patients, then all these questions are answered in the affirmative. There are two things necessary for our own satisfaction and consciousness that we are doing the best thing possible for our case: 1. An easy practical distinctive classification of the diseases of the middle ear. 2. The exposition of the case to the patient or his friends, where their intelligence makes it possible.

For a practical classification I have adopted the following:

OTITIS MEDIA.

- Acute Catarrhal.....
- Chronic Catarrhal.....
- Acute Purulent.....
- Chronic Purulent.....
- Subacute Intumescent.....
- Subacute Cirrhotic, Hypertrophic or Atrophic.....

With these we have only to affix the complications in any case, and a distinctive, practical diagnosis is made.

*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

ACUTE CATARRHAL OTITIS MEDIA.

The acute catarrhal form is usually complicated with, or occurs in the course of, contagious fevers and acute inflammatory affections of the upper air tract, and is usually limited to the lower part of the tympanic cavity. All are familiar with its symptoms: Pain in the ears and along the jaw; tinnitus, fulness, throbbing and dulness of hearing; frequently fever. The drum shows congestion and is bulging; if perforated, there is discharge, pearly or milky white, thin, watery and abundant, the odor not offensive; if not perforated, puncture is indicated with a cautery electrode or the spear. Relief follows within a few hours. Apply dry heat to the ear, pilocarpin internally or by hypodermic syringe, and cleanse the nose and throat by wiping, not syringing, and one inflation through a catheter, when possible to use it. When the case has gone on to rupture of the drum, and you see a large hole with catarrhal discharge, cleanse the throat and nose as before. Syringe the ear daily with warm *Dobell* or weak soda bicarbonate solution, and follow with a dropper full of zinc sulphate, 7 gr. to the ounce, wipe out thoroughly dry, inflate the ear once or twice and dry again. Do not keep the ear plugged with cotton, except when the patient is out doors. Cleanse it every other day yourself, by washing —by zinc as above—and catherization and drying, the patient using a dropper full of the zinc solution at home, three times a day, letting the water run out as well as it can after retaining it a minute. Powders are not as good as the zinc, except in cases where the hole in the drum is large enough for some of the powder to get into the middle ear, in which cases cleansing every two days, drying and using of boric acid powder will probably heal the inflammation as quickly as does the zinc. I like the latter better than the silver or permanganate solutions. It does not cause any pain, as a rule, even in solutions of 10 to 15 gr. to the ounce. I seldom use the peroxid as it does not hasten the cure, sometimes I have thought it retarded it.

CHRONIC CATARRHAL OTITIS MEDIA.

I treat the chronic catarrhal troubles, following fevers and la grippe, the same as the acute form. It is not necessary to detail symptoms for diagnosis in this class of troubles. There is a form of chronic catarrh, which I call tubercular, simply because it occurs in tubercular patients. They are very intractable, but if the constitution is good or fair these yield to treatment as well as those catarrhs occurring in the non-tubercular.

ACUTE PURULENT OTITIS MEDIA.

This is an aggravated form of catarrhal otitis, infected with pus germs. It is usually complicated, involving the attic and antrum. Pain is more intense and fever higher. The drum is ruptured sooner and the pus soon has a very bad odor, from its confinement. These patients should be treated at home, by appropriate medicines for fever and pain, and close watch on the mastoid. Puncture the attic if it is bulging. This form yields more quickly than the simple catarrhal form. The treatment is the same, except that you should treat the patients each day yourself. I have known them to get well in five or six days, while it is more common to have catarrhal forms run into the chronic or subacute, before getting well. In fact, I am always expecting the subacute ones to come back after they are apparently entirely well. This acute purulent form may run a rapid course for the patient. It is necessarily very destructive, although when healed quickly, little or no apparent injury has been done the hearing. Should you have mas-

toiditis, delay is dangerous. Wilde's incision is good practice, even on suspicion.

CHRONIC PURULENT OTITIS MEDIA.

The chronic suppurative cases are so called when there is the characteristic odor of diseased bone, even when there is scarcely any apparent discharge. These are decidedly obstinate, and yield, in the majority of cases, only on an operation, i. e., thoroughly scraping out the attic and tympanum, or even making the radical mastoid operation. No running ear is safe, although the catarrhal form is least dangerous. The purulent form is absolutely dangerous.

Chronic hypertrophic rhinitis and more or less stenosis, from spurs or deflected septum, have nothing whatever to do with causing any form of aural trouble. This may seem a remarkable statement in view of prevalent teaching. All specialists meet with stenosis, spurs, hypertrophy of turbinates extending into the posterior nares, and large soft pharyngeal tonsils in which there is absolutely no involvement of the ear, consequently, if they were causative factors, these obstructions could not exist except when complicated with aural troubles, while many cases of acute and chronic aural troubles are seen in which there are neither obstruction, hypertrophy of turbinates, nor enlarged hard or soft pharyngeal tonsils. Then, if these nasal pharyngeal troubles do exist and are corrected, the aural trouble remains the same or continues to progress, they are simply incidental and a part of the dyscrasia. Adenoids may, and usually do, cause deafness, quite as frequently, though without catarrh or discharge from the ear, as with it, and therefore their action is more mechanical, aided by the diathesis always present in these cases. While not admitting cause—except in adenoids—I always try to correct these nose and throat defects.

CHRONIC CATARRHAL INTUMESCENT OTITIS MEDIA.

I desire particularly to call attention to the distinction I shall make in describing this disease. It is this affection which, when not specifically distinguished, causes much confusion. There *is* such an affection and it is distinctively marked. It is always complicated by chronic soft swelling of the Eustachian tube, thick, red and soggy uvula, and pharyngeal pillars, and more or less redness and soggy or granular appearance of the upper pharynx. In this affection you will be most likely to meet with intumescent turbinates or other obstruction of the nares. The drum may be good color and but little changed in general appearance, or it may be bulging or retracted, or lax. One ear is usually much better than the other. There is another symptom which is diagnostic in this affection, although the condition outlined is sufficiently characteristic. This symptom is the subjective one of hearing. These patients hear a watch badly, but the voice is heard comparatively much more distinctly. I have had many patients who could not hear the watch except when pressed, or within an inch of the ear, yet could hear conversation distinctly. These *always* have tinnitus. The Eustachian tube is *always* obstructed. In fact, this affection is primarily a Eustachian inflammation. But changes are always found in the ear as well, and it is a true chronic intumescent catarrhal otitis media. It is most frequently found in persons who are exposed to all kinds of weather, as railroad engineers, brakemen, miners, teamsters, etc. Treatment of this affection seems of little benefit. I treat the nose, throat and Eustachian tube by astringents and dry heat, iodin, vapors of camphor, menthol and albolin, with inflation and occasionally gentle dilatation. Massage is scarcely indicated and accomplishes nothing. Catheterization is beneficial, but should not be pursued as routine treatment. Valsalva's method should never be practiced except to coax up a spray; never by the patient at home. Pilocarpin is of service in some cases. Puncture of the drum will relieve tinnitus, until the puncture heals. Removal of the drum and malleus or incus will improve hearing. But these patients should be treated continuously for a year before operation is done, unless quite deaf, or they desire the operation. Change of climate will sometimes aid them, as low altitude, hot and dry, e. g., Old or New Mexico. Change of occupation is sometimes beneficial. These cases *sometimes* yield unexpectedly, and satisfactorily to the treatment. It is possible that they become hypertrophic, then atropic or cirrhotic, like the following type, but if they do it is very slow indeed.

SUBACUTE, CIRRHOTIC OR ATROPHIC OTITIS MEDIA.

This affection has two stages, which can not always be demonstrated in a given case. I would liken this disease to hypertrophic rhinitis, and the preceding affection to intumescent rhinitis. It has been, I think satisfactorily proven that atrophy follows hypertrophy of the turbinates. It is also positive that in hypertrophy of the turbinates the tissues are hard and do not contract decidedly under cocain, as does the intumescent form. Now follow this same form in the ear and Eustachian tube, and note the comparisons: The hard pharyngeal tonsil becoming finally atrophic; the hard hypertrophied turbinate becoming the atrophied turbinate; the cirrhotic hypertrophic Eustachian tube and tissues of the middle ear becoming atrophic. Do not forget the two stages of this disease and you can account for different symptoms, in cases much alike.

Symptoms.—Deafness slowly coming on, with or without tinnitus. When tinnitus is present you have the hypertrophic stage. Aerial conduction is more or less lost, hearing the watch only when very close or pressed to ear. The patient hears some better with his mouth open and still better in a noise during the first stage and up until the stapes becomes firmly locked to the oval window, when noise makes but little difference. Hearing for conversation is much worse than in the intumescent form. To appreciate this difference you must recall your cases and differentiate on these lines. The appearance of the nose and throat will likely be in line with this condition, purely incidental however. The objective symptoms are: drum retracted —may be good color but light spot displaced; Eustachian tube fairly well open or, if in the second or atrophic stage, wide open.

Treatment.—In either stage, medical treatment avails absolutely nothing. While these cases seem to remain stationary, at times the tendency is to result practically in almost total deafness. The only hope in medical treatment is to stay the progress of the disease, and this is almost a forlorn one. Operation is the best thing in either stage, and better in the earlier one. I have adopted the following course, when operation is contrary to the patient's wishes: Treat the nose, throat and tube with stimulants, and try to put some of them in the middle ear. Give iodid of potassium and strychnin internally. If massage is good in any aural affections, these are the ones, but I have little faith in it here. Inflation is of no benefit aside from its massage; indeed, it seems harmful, but it seems impossible to avoid inflation when you apply medicines in the tube and ear. You can pursue this treatment as long as the patient sticks. Always, however, bear in mind and inform the

patient that the operation is the thing which promises better hearing. This is the removal of the drum and the malleus or incus or both; the results are quite good. It is neither necessary nor good practice to remove the stapes, and besides being exceedingly difficult, it adds greatly to the danger, and its removal only temporarily increases the hearing over the other operation, because the oval window soon becomes covered with a firm cicatrix, more or less of an epidermic character, and deafness equally as great as before results.

Hearing is not as good after an operation in the atrophic stage as in the hypertrophic. In the cirrhotic the nerve also is sometimes involved. I believe all cases of middle ear trouble are due to some one or other of the dyscrasias, syphilitic, scrofulous, rheumatic, or others.

A word about tinnitus aurium: Its cause seems simple. It is due to more or less ankylosis of the joints of the ossicles with each other and of the stapes to the oval window. Sound waves striking the drum constantly are as constantly transmitted through the ossicles to the fluid of the internal ear. If you close both ears with your fingers, you are pressing the ossicles together, thus ankylosing them and the stapes firmly against the oval window. Now you note a loud rumbling noise, because of vibration through the head and from the mouth. If you talk, you get the same sound a deaf person has, as though you were talking through or into a barrel, showing conclusively that it is in the drum and ossicles that the trouble lies, and that this is due to solidification or, in other words, to more or less ankylosis. When fluid is in the ear, as in acute or chronic affections, you mechanically have the same thing, a solid body acting as a transmitter—in other words a greater or lesser loss of aerial conduction, plus pressure. I am perfectly satisfied with this explanation of tinnitus, which has been explained in so many different ways. If you take a common bass drum and glue a straight stick to the center of the head, on the inside, and strike either head, you get on the other side a muffled sound; but if you glue a chain to each head, on the inside, you get a sound free from all obstruction, in fact a clearer sound than without the chain. The explanation is that transmission of sound is conducted through the chain, instead of direct vibration, when the ear is obstructed you get direct vibration, when the ossicles are normal, you get conduction. If you puncture or remove the drum, noise stops in nearly every case, because sound waves now land against the internal ear wall and conduction is again established in the internal ear. If noise persists after puncture of the drum, it is because there is firm ankylosis or great retraction of the drum, and the hole practically does not admit the waves against the inner wall and the drum and ossicles still receive the vibrations. Conduction through the proper apparatus is absolutely essential for perfect hearing. So if the drum and ossicles are disabled or removed, you will lose some acuteness of hearing. The question arises, why, if the middle ear is stenosed by fluid, are not waves transmitted to the internal ear the same as when the ossicles are removed? The answer is that peculiarities of sound waves are lost and force is broken in transmission through fluid parts. Why do not all persons have tinnitus if ankylosis is present? This question is answered by the fact that a difference in the degree of the ankylosis is present, from that in the intumescent form and hypertrophic stage of the cirrhotic form. Where tinnitus is absent we find atrophy of the tissues covering the ossicles. Ankylosis is more *firm* and there is greater contraction of the drum, with firm stapes—the chief cause—and the Eustachian tube is patulous and atrophic, with atrophy of the throat and nose.

Other affections of the middle ear occur, but they are usually complications of, or caused by, one or another of those treated in this paper, and are sufficiently treated in the standard text-books. My excuse for this paper is purely in its positiveness as to classification, diagnosis, and treatment. It represents condensed opinions of the best authors, with some experiences of my own. In assigning a separate class to the atrophic or cirrhotic form, it is done with a conviction that it occurs without being preceded by the intumescent or catarrhal one. In a few cases it would seem that this form is atrophic, from the beginning, but I am inclined to believe that it is a parallel condition to that found in the nose.

THE GOUTY DIATHESIS.

SOME OBSERVATIONS FROM A DIETETIC STANDPOINT.*

BY EDWARD P. ADAMS, M.D.

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In consideration of the subject of gout, of which so much is known, and withal so little, I must confess that in my hands a rigid attention to diet has accomplished better results than much medication, excluding perhaps those acute explosions in which I have found that a few good doses of piperazin or maizo-lithium for forty-eight hours have given the greatest immediate relief.

Practically, hereditary gout, as well as chronic, is a direct or indirect result of either too generous living and too much "good cheer" in the immediate ancestor, or an improper diet or indulgence in alcoholics in the subject, with also, in some cases, bad climatic influences. Arguing on this supposition, what could be a more rational procedure than to first withdraw the cause of the condition?

In the hereditary forms—and they compose about 75 per cent. of all cases—there is evidently a weakened condition of the eliminating power of the excretory organs, and a lack of physiologic resistance to the accumulation of the urates, with a consequent loss of the metabolic power. Such cases as these, "born and bred in the bone," as they are, require at our hands, a most rigid prohibition from their diets, of the nitrogeneous and leguminous foods and alcoholics from infancy, and a dietetic education of the stomach and palate to a liking for green vegetables, as well as a training in the knowledge that alcoholics and nitrogenous food, and cold and dampness may eventually conclude in the gouty condition which is their inheritance. In those cases of acquired gouty diathesis we have a less persistent condition of affairs to deal with, principally a change of habits, and of these notably the diet, for I have seen as many cases of this sort in which there was no attending use of alcohol, as with it, and in most of these cases a rigid and proper attention to diet has been of more benefit than medicinal treatment where the restricted diet was persisted in.

Without discussing the various views as to the etiology of gout, we may with safety assert that there is always an excess of the urates, and whether or not it be due to a virtual excessive manufacture of them in the economy, or to a storing up of them from a deficient elimination, we know that they are stored away as deposits, and with a knowledge that either their production is

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decreased or that a better elimination takes place under certain conditions, our duty is plain; put the system under those certain conditions.

Now, while under any diet, the urates are a normal factor in the economy, we know that they are decidedly increased by the use of nitrogenous foods, alcoholic stimulants, a deficient amount of oxygen, cold and dampness, and lack of muscular exercise. Therefore, in any given case all these conditions which assist must be removed or diminished as far as possible. Excess of uric acid in the blood means a disturbance of the nitrogenous equilibrium.

Gout may be chemically defined as a disturbance of the nitrogenous equilibrium, by the retention or accumulation of uric acid, which, under a sudden excess of, or increase in amount, becomes precipitated as urates, in the tissues, creating irritation and inflammation in the parts next adjacent. Nitrogenous equilibrium is maintained when the amount of eliminated nitrogen is exactly equal to that ingested.

The presence of fat or carbohydrates in the food checks proteid metabolism, establishing nitrogenous equilibrium, with the use of less proteid food; therefore, theoretically and practically, fats, starches, and sugars are useful foods in gouty diathesis, as with them a much less quantity of albuminous food is necessary. Of course, not all forms of these can be used by many, as they interfere, especially if digestion is poor, for then they set free acids and ferments which interfere with the proper metabolism, but in all cases there can be found some forms of these which are easily digestible, either in their raw or natural states, or properly cooked.

Muscular activity and heat are the two ways in which energy is set free, and in order that we may have actual energy for the production of heat and bodily motion, a food containing potential energy, which by the metabolism of the body is converted into actual energy, is necessary, but if, with the ingestion of this food, we do not by muscular activity set free the potential energy contained therein, it sets itself free by explosions within the economy, which interfere with metabolism and produce an unstable nitrogenous equilibrium, which means an excess of uric acid in the blood—the foundation of gout.

It is characteristic of proteid food to increase the oxidation and the metabolism of the tissues, producing immediate consumption of both nitrogenous and non-nitrogenous food; when the tissues must be quickly renewed an excess of proteid food is necessary, but when this excess is constant it is liable to be productive of an excess of uric acid in the blood, which, becoming deposited as urates, produces the gouty condition.

The principal value of fats and carbohydrates lies in the fact that they produce at least three-fourths of the potential energy, being sources of muscular energy, as well as of heat, but, unlike proteid food, they do not excite metabolic activity of the tissues. They can also be stored up and retained in the system with more ease than can proteid food, and after digestion the elements of the fats and hydrocarbons, which compose the protoplasmic part of adipose tissues capable of metabolic changes without the expense of explosive energy—which explosive energy when resulting from proteid food, demands immediate excretion or causes a saturation of blood with uric acid—are likewise stored away, depositing from non-nitrogenous food, fat which is useful as a source of reserve energy, while nitrogenous food, especially in excess, is not stored away for future use, but if not immediately needed and immediately used is a poison which, if solely in the blood, causes great irritation in the system, and when deposited in the tissues causes the greatest pain of gout.

Having in a superficial way noticed the general conditions to be expected from the three classes of food, I will proceed to give you the results of some of my own observations with some individual articles of food and drink.

Drinks.—In a general way I may say that fairly large quantities of water or liquid are theoretically and empirically useful, in that by diluting the fluids of the body they seem to hold in solution, or take up a larger percentage of, the uric acid and also to prevent deposit forming. All drinks should be taken hot if possible, because if cold, or especially if iced, they waste animal heat, and a depression of nerve force takes place in the economy, in the effort to restore the normal heat again. If hot water can not be taken between meals it can be taken while eating, and I have found that it is well borne, and does not interfere with digestion, as does cold water, for it is quickly absorbed, and does not do more than delay digestion for a few minutes. The humbuggery of the past, that water should not be taken while eating, is, I trust, "a thing of the past," for it is nowadays quite the proper thing, dietetically, as well as gastronomically, to use hot soup, bouillon or consommé with one meal a day, and it is a wise habit to develop.

As to mineral waters generally, and especially the carbonate of lithia waters, I quite agree with Osler when he says, "much of the humbuggery in the profession still clings about mineral waters, more practically so-called lithia waters. There is not the slightest evidence that the carbonate of lithia has any influence in promoting the solubility of uric acid." In my experience—and it is quite extensive—in so far as mineral waters are concerned, I am convinced that Osler is justified in his assertion. I believe that they do good only in so far as they serve to introduce into the system a large quantity of water, expensive as it is, and the more expensive it is, the more it is likely to be taken, for a patient will drink water for which he has to pay, when he will not drink largely of that which is easily obtained. And, except on this ground, I have discontinued the use of them, only giving them to those patients who still believe in them, and then only for the service that the water itself, minus the carbonate of lithia, will perform. For the past ten years I have succeeded in having my patients with gout, after a few days' education, continue the use of hot water in large quantities, in which was sufficient piperazin, or fluid extract of corn silk to equal daily 15 grains of piperazin, or half an ounce of the fluid extract of corn silk. In all cases of acute attack of gout, my dietetic treatment was commenced immediately, supported and assisted during the first forty-eight hours by twenty grains a day of piperazin in large draughts of hot water, or the use of maizo-lithium in fluid dram doses in a tumbler of hot water every four hours, and in chronic cases continuing the use of either one or the other in smaller doses but in large quantities of hot water. Freshly made fluid extract of corn silk acts admirably in the same way, but it must be freshly made, and from the green fresh silk, which can only be done during the season of sweet corn, and as the lithia, either the citrate or benzoate, has remarkably solvent effects on uric acid, I have often combined it with the fluid extract of corn silk, in which the value lies in the maizinic acid, so when the corn silk can not be taken from the growing corn, I use the maizo-lithium. It is cheaper than piperazin, and has no depressing effects; indeed, corn silk, since its introduction to notice as an uric-acid solvent, in 1882, by Pro-

fessor Castan, has grown on the profession as a valuable drug in these gouty conditions. Its introduction into the system brings about a balance of the nitrogenous equilibrium without any disturbance; produces a rise in the arterial and a fall in the venous tension. Its use is supported by such authorities as Dennie of Bordeaux, Queirel of Marseilles, Pons of Nerac, and many other observers, in uric acid conditions, and not once in ten years' use have I been disappointed in its results. I give it to all my gouty patients, in one form or another, ofttimes with lithia, sometimes alone, daily for months, as a largely diluted drink with meals.

According to Dujardin-Beaumetz, coffee is not deleterious in gout when it acts as a diuretic, otherwise it does harm and should be avoided. Milk is another valuable drink for the gouty, and when it constipates should be combined with seltzer water; it should always be fresh and sweet. Buttermilk is grateful and refreshing to some, and furnishes likewise a good excuse for ingestion of fluid.

If liquor seems to be demanded because of previous habitual use, whisky is probably the best or does least harm, especially if largely diluted with water. If possible, all alcoholic drinks are best avoided. Cold drinks are to be avoided, their harm being directly in proportion to the quantity taken, the severity of the gout, and last but not least, the age of the patient, for as people advance in life, they become less tolerant of cold or iced drinks, and in a gouty constitution a large draught of cold drink may, as in one case I know, precipitate an attack by sudden lowering of the bodily temperature. Lemonade between meals when there is no desire for fluids, is a good drink, if not too sweet, as the acid it contains is, like all vegetable acids, changed into the alkaline carbonates in the economy.

Condiments are a valuable adjunct in the administration of all foods, for while but very few gouty people need their "palates tickled," they act as valuable assistants to digestion; however, common salt should not be taken in large quantities, nor food containing much of it used, as the lymph in the vicinity of the synovial joints and sheaths has a particular affinity for it, and the biurate of soda is so easily formed in the presence of sodium chlorid. It is probably partly due to this fact, combined with the lower temperatures and lessened circulation of the part, that the deposits of urates so readily take place.

I believe it is not as generally known, even in the profession, as it should be, that we have a most valuable medical condiment in mustard. I know one patient who claims he "staves off" an attack of gout by using pulverized dry mustard mixed with water to a paste, as a condiment at every meal, when he commences to "feel the twitchings of pain," and Chambers of London says that in chronic rheumatism, "a patient need seldom be laid up if he will adopt the simple expedient of eating a certain quantity of fresh mustard with every meal—much, if worse than usual, and a little if he is pretty comfortable."

Pepper as a stimulant to digestion is harmless in moderate amount, and makes many otherwise insipid articles of food palatable and tasty. Horseradish finely grated, while not of the therapeutic value in gout which it was once claimed to be, is nevertheless of about the same digestive use as pepper. I may say the same of water cresses and pepper-grass.

With but a few exceptions, green vegetables are the ideal foods, and, as Walter Mendelson says, "a great boon to the gouty; they afford sufficient bulk to allay the appetite without introducing too much nutriment, beside supplying the system with alkaline soda and potash salts."

The dried leguminous vegetables, like beans, peas, etc., must be avoided, as nitrogen enters too largely into their composition.

As I have so lauded corn silk, I want to say of the corn itself—i. e., the fresh green sweet corn—that I have been greatly impressed by the constant use of it; that it is the best by far of the vegetable kingdom for daily use as a medicinal food, containing as it does a small percentage of maizinic acid and a valuable amount of assimilable nutriment, with considerable bulk, and not disagreeing with the stomach, when young and fresh. Where it does disagree by reason of the hull, it may be cut off the cob while raw, rubbed through a coarse sieve, separating the hull to be discarded, and then turning the corn substance into an equal quantity of hot milk to simmer for three or four minutes, and serve with butter, salt and pepper. With those who can eat it "off the cob" it will not disagree in moderate quantities daily all through the season, if young and fresh and boiled eight minutes. In the winter it can be obtained in cans, and used without more cooking, simply heating in milk or water. Of course, only the best brands are to be used; the "Sunbeam" and other brands of Maine corn are the best I have found. A good corn broth can be made, by emptying the contents of the can into the same bulk of sweet milk, simmering two or three minutes, season to taste and strain through a coarse sieve, rubbing through all that will pass. If a daily small quantity of sweet corn can be eaten, the subject of gout can eat with less injury a larger amount of meat than otherwise.

Cucumbers and squashes are not harmful to good stomachs. They contain a good proportion of the alkaline salts, and in squash there is considerable nutriment; they are both diuretic. Cucumbers should be "just off the vine," fresh and crisp, placed in cold water till cold, peeled, sliced into cold or iced water, and when ready to be eaten a slice taken on the fork, dipped into vinegar and sprinkled with pepper and salt and finely masticated; eaten before noontime or at breakfast, they make a good relish.

Greens, like spinach, dandelions and kale, are of appreciable service, as by their bulk they satisfy, and their extractive salts are of the alkaline group; no constipation follows their use, as they act as a stimulant to the liver. Sugar beets with green young tops are of this class, and contain considerable sugar.

Potatoes should be neither too young nor new, and not old enough to have sprouted; they are best boiled or baked with their jackets on, and the skins of the roasted potato, eaten, as they contain the phosphates.

Salads of lettuce, celery, tomatoes, etc., with oil, butter, pepper or mustard or mayonnaise are healthful, if not combined with chicken, lobster, etc., which are best eaten by themselves.

Fruit is, most of it, beneficial, but should not be eaten after a meal, or on retiring; the old adage applied to apples, that they are "gold in the morning, silver at noon and lead at night," may be equally applied to all fruit.

Watermelon has remarkable diuretic properties, but it is best to swallow only the water. They are very refreshing, especially when "chilled" and used in a hot summer day; the juice cools the mouth, but gets into the stomach slowly enough to do no harm.

Cooked fruits often disagree because of the fermentation of the added sugar, which in the presence of the fruit acids, takes place readily, or forms organic acids which interfere with digestion.

Fish may be made to take the place of meat to a great degree; the harder and finer the texture of the fish, and the darker and more oily it be, the harder it is to digest, but if digestion be good, nearly all kinds can be eaten, especially if properly cooked. The rule should be, to never fry them, but bake, broil, or best of all, boil them. With very weak digestion, flounders boiled ten minutes in a little salted water are well borne. Animal food is denied by many, and advocated by as good authority, but I am inclined to the opinion that it is quite generally conceded to be harmful and certainly unnecessary; except in a few cases where the light-colored meats may be used to "break the monotony" of diet, they are best let alone.

Fats, starches and sugars, when properly cooked and digested, do not contribute to the formation of uric acid, and their free consumption acts to restrict the amount of proteid or nitrogenous food. Good fresh butter, oils in salads, bacon, etc., lessen by their heat production the retrograde metamorphosis of the body albumins and satisfy appetite. Most of the starchy foods may be eaten with impunity, if properly cooked. Bread should be stale or toasted, and the German toast or "zwieback" should take the place of crackers.

I have not attempted to cover the ground of medicinal treatment; and, with proper diet, but little will be required in the main, except during the "explosive" attacks.

In closing, let me say that with our diet, we should encourage employment and outdoor pleasures; and pleasant exercise, either active or passive, for those confined to the house by infirmity or otherwise.

Stimulate the depressed and melancholic conditions by cheerful companionship, but teach our patient that he who makes of his stomach a god is a fool, and that "good cheer" with brandy and soda, makes urate of soda and gout.

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A CYST OF THE PANCREAS: OPERATION: RECOVERY.*

BY JAMES B. EAGLESON, M.D.
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Mrs. J. K., 34 years old and a native of Norway, was referred to me by Dr. Gibson of Seattle. Her family history was negative and she did not remember having received an injury of any kind in the abdomen. She has two children, aged 16 and 5 years, and has had two abortions, the last two years ago. Her general health had always been quite good, until 1896, when she began to have some indigestion and distress in the stomach, and this gradually increased.

In May, 1897, she had a sudden attack of severe pain in the left side, in the region of the kidney, accompanied by severe nausea and vomiting. The attack was thought by some to be acute pleurisy, but no definite diagnosis was determined on. It lasted about five weeks. A second attack occurred in the latter part of July, diagnosed as some disease of the uterus and ovaries, and an immediate operation was advised. She was sent to the hospital in Spokane, where she was then living, and had the uterus curetted and a laceration of the cervix repaired. About ten days later a double oöphorectomy was performed. She left the hospital in four weeks after this, somewhat improved, but in about two weeks after going home the attacks of pain returned, more severe than before. During the following winter they returned at frequent intervals and were occasionally accompanied by a slight cystitis. In February, 1898, her condition was diagnosed as a stone in the left kidney, and an operation for its removal was advised. About one month later she noticed a tumor in the left side, when lying in a certain position. The appetite remained poor and she continued to lose flesh, but during the summer after coming to Seattle the attacks were not so frequent and were less severe. However, as the cold weather came again the attacks were more pronounced, and about the middle of November her attending physician had her removed to Providence hospital and called me in consultation.

I found her very much emaciated and the skin presented a wrinkled appearance and had a decided bronze tinge. She felt a repugnance toward eating, and the food taken was frequently rejected. Her temperature ranged from 99 to 101. Her sleep was very restless and broken. There was a movable tumor in the upper part of the left lumbar region, which dropped forward, downward and toward the median line when in the erect position, coming as low as the umbilicus. It was somewhat tender on palpation and seemed to be a solid tumor. The tenderness was much more marked during the attacks of pain, which would frequently radiate downward in the direction of the ureter, and would be accompanied by an irritation of the bladder. The urine collected from the kidneys, by the Harris instrument, showed no apparent difference on analysis. That voided gave a deposit of a few pus cells and bladder epithelium from the cystitis. The quantity of the urine passed was somewhat below normal, but was occasionally considerably increased immediately after the subsidence of the acute pain. The kidney could not be outlined in its normal position. No definite diagnosis was arrived at, but the tumor was thought to be an enlarged floating kidney, and an exploratory operation was decided on with a view to making a thorough examination of the kidney, and if it was found to be healthy, to fix it to the lumbar muscles.

I operated on November 28, and was assisted by Drs. W. C. Gibson, C. B. Ford and H. D. Kline. The usual lumbar incision was made for exploring the kidney, which was found to be apparently healthy and in its normal position. Through this incision the tumor could be located as extending from a fixed point just above the kidney downward and forward into the abdominal cavity, and was pear-shaped. As soon as we discovered that we had to deal with an intraperitoneal tumor, the lumbar wound was closed up by buried catgut and cutaneous silkworm gut sutures.

The patient was then changed to the dorsal position on the table and an incision was made over the most prominent part of the tumor, which was at the outer border of the left rectus muscle. The lower end of the tumor, covered by omentum, was brought into the wound. It was oval and about 12 cm. in diameter. The left end of the transverse colon passed over its center, and the stomach was drawn down over the upper end. It was smooth, but very dense and hard, resembling a solid tumor on palpation. The first thought was that it must be a malignant growth, and from the apparent depth of its attachments, the advisability of at-

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tempting its removal was questioned. An opening was torn through the gastrocolic omentum and the tumor wall exposed; it had a dark bluish color resembling a cyst.

It was now diagnosed as a pancreatic cyst and I decided on immediate incision and drainage. The edges of the omentum, which was firmly adherent to the cyst wall, were stitched to the peritoneum of the abdominal wound in order to prevent leakage into the abdominal cavity. An incision 1 inch long was now made into the cyst and its contents drained out by turning the patient on her left side. The fluid contents, a dark greenish-yellow color and quite turbid, had a sourish odor. Unfortunately none was preserved for analysis. The quantity was estimated at 2000 c.c. It was not possible to reach the upper end of the sac with the finger inserted in the opening. A probe passed upward, backward and outward for about 25 cm. toward the tail of the pancreas.

The edges of the cyst wall, which were quite thick, were sutured to the abdominal wound and a large rubber drainage-tube inserted into it. The external wound was closed with silkworm gut sutures and an absorbent dressing applied.

The shock of the two operations was quite severe, and the patient's temperature remained subnormal for the first twelve hours. She was very restless and suffered severe pain after the effects of the anesthetic wore off. She was stimulated by morphia and strychnia hypodermically, together with hot saline enemas. The pains continued more or less severe for four days, and the nausea following the anesthesia lasted for three days.

The discharge from the drainage-tube was very slight after the second day and the tube was removed on the eighth day. The wound was entirely closed on the eighteenth day. The patient gained strength very rapidly as soon as able to take nourishment, and her recovery was uneventful. At the end of six months her health is good and she is able to do her own housework.

SMALLPOX IN OHIO.*

BY C. O. PROBST, M.D.

SECRETARY OHIO STATE BOARD OF HEALTH.

COLUMBUS, OHIO.

Ohio has been having a most interesting epidemic of smallpox during the past year, and I had hoped to be able to present a proper report of it to this meeting. During the past six or eight months, however, I have been kept so busy combatting the disease that I have had no opportunity to complete the report. A few weeks ago I wrote the Chairman that I would be unable to present the paper I had promised, but he informed me that the program had already been printed and that he would expect me to say something on the subject. I have, therefore, very hurriedly prepared a few remarks on some of the more interesting features of our epidemic.

Smallpox made its appearance in Ohio April 6, 1898, and up to June 6, 1899, fourteen months, there have been reported 1882 cases and 30 deaths. Out of 88 counties 45 have been invaded, and the disease has prevailed in 61 cities and villages, besides, in most instances, invading rural districts surrounding them. The disease has been marked by its exceeding mildness and by the many failures to recognize its character, both operating to favor its spread.

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The first outbreak occurred in a small village a few miles south of this city and very well illustrates the nature of the disease. A man 72 years old made a visit South, passing through several States where smallpox was prevailing. About a week after returning home he was taken ill and in a few days died with what was called "black measles." Two weeks later his wife, son, and three grandchildren were attacked with what was pronounced "chicken-pox." The children had never been vaccinated, and yet the disease was exceedingly mild, so mild that the children were never bedfast and scarcely missed a meal. The eruption was scanty, rapidly ran its course, and presented much the appearance of chicken-pox. Two or three well-marked cases of smallpox resulted from exposure to these children and settled the diagnosis.

In April, 1898, a show known as "Uncle Tom's Cabin Show," owned in Columbus, started on its annual tour, which for that year was at first through the western counties of Ohio. Two children, one of them "Topsy," and an adult contracted what physicians called to see the patients pronounced "chicken-pox." The children were not greatly affected at any time, Topsy taking her part in the play each night. The adult was quite ill for some time. Six distinct outbreaks in as many different communities were directly traced to this show. A most remarkable feature of these outbreaks is that in none of them was the nature of the disease thus started recognized until months afterward.

One of these communities, where smallpox was thus started, is Wapakoneta. The disease began there in May, and it was not until October that an investigation was made, or called for, and the disease declared "smallpox." The community was largely unvaccinated, most of the children under 12 years of age being unprotected. No restricted measures whatever were employed. Schools and public gatherings continued as usual. The sick were visited and every opportunity was afforded for the spread of the disease. A county fair was held and smallpox patients in the desquamative stage of the disease mingled freely with the visitors. In spite of this great exposure there was comparatively little spread of the disease. In all there were but 203 cases of smallpox in Wapakoneta and vicinity, embracing a population of not less than 9000 people. The great majority of these occurred before preventive measures of any kind were employed.

Perhaps a more remarkable behavior of the disease was shown in Marysville, a village of about 4000 inhabitants. Smallpox appeared there in May, the first three cases having been directly traced to exposure to the troupe referred to above. The disease spread very slowly, attacking children and adults, but only the unvaccinated. The health officer, some time in July or August, became suspicious of smallpox and called a council of physicians. They agreed on a diagnosis of "impetigo contagiosa." No efforts were made to prevent the disease from spreading, the diagnosis of impetigo being accepted, the common people, however, calling it "Spanish measles."

An outbreak of smallpox in Hamilton the 1st of November was directly traced to an importation from Marysville. Inquiry developed the fact, however, that at that time there were no cases of either smallpox or impetigo in Marysville. The disease had actually died out of its own accord.

Two weeks later the health officer of Marysville reported some suspicious cases, and three undoubted cases of smallpox were found in one family. These were quarantined and no others occurred. Probably most of

the physicians in Marysville will still tell you that there has not been a case of smallpox in that village.

These are fair examples of numerous outbreaks in different communities of this state, where smallpox has languished for weeks and months without any one suspecting its presence.

The disease itself has presented many unusual features. It has been not only very mild, but also very feebly contagious. What has been said would indicate this, but other facts show it. In some instances unvaccinated children have lived in the house where persons went through with an attack of smallpox, associating with them daily, and yet escaped the disease. Persons with the disease have gone into crowded rooms, as into schools, churches, railway cars, etc., and yet no one contracted smallpox from such exposure. Vaccination, even if performed many years ago, has given almost perfect protection.

Where the disease has prevailed in a community for months, masked under some other name, vaccination became the best means for diagnosis. A house-to-house canvass in such cases, with a history of the patients and their families, revealed the fact that with few exceptions the disease had gone through family after family, picking out only the unvaccinated. There was a remarkable instance of this at Marysville. Two families living in adjoining houses in the same yard had the disease. In one family of seven all had smallpox and all were unvaccinated. In the neighboring family of six but one contracted the disease and he was the only unvaccinated member of this family.

The symptoms of the disease were variable. The preliminary fever was in many cases slight and almost unnoticed. Secondary fever appeared in only a small proportion. The eruption in most instances was more superficial than common, involving the true skin less, so that in most cases the pitting was slight. The eruptive period was often much shortened and pursued a somewhat irregular course. While the disease was so very mild several deaths, nevertheless, occurred from hemorrhagic smallpox, and two from the malignant, purpuric form.

In conclusion may be quoted what an old, experienced physician in Wapakoneta said when the character of the disease there was being investigated: "If this disease we are having here is smallpox then the whole subject of smallpox, as given in our text-books, must be rewritten." But when asked if that would not be equally true if the disease were chicken-pox, as it was being called, he said: "I guess that's so, too."

For discussion, see page 1592.

HOW SHALL WE CONTROL VARIOLA?*

BY S. L. JEPSON, A.M., M.D.
CITY HEALTH OFFICER.
WHEELING, W. VA.

A pebble in the streamlet scant
Has changed the course of many a river.

Vigorous sanitation applied at the right time and in the right way will always prevent an epidemic of smallpox. No acute infectious disease is so easily controlled, because: 1. It manifests itself externally and should rarely be mistaker for any other disease; 2, it is greatly dreaded, and hence people are as a rule careful to avoid it; 3, its germs are easily destroyed; 4, we have in vaccination an absolutely certain protection. The last statement may be disputed, but the exceptions are so very rare that I think better to ignore them.

My experience as a sanitary officer has brought to light a very great amount of prejudice against vaccination. This is largely based on the densest ignorance, but not a small part of it is due to the many bad results of careless vaccination—results often caused, not by impure virus, but by vicious methods of introduction or neglect by physicians of the commonest antiseptic precautions. Arms are seldom cleaned prior to the operation. Not rarely absorbent cotton or a cotton rag is bound tightly over the arm; and at least two physicians whom I know apply adhesive plaster after the insertion of the virus, allowing it to remain during the development of the vesicle. The result is a broken vesicle or pustule, an imperfect protection, often an infected and consequently very sore arm, with constitutional disturbance; and, worse than all, a growing prejudice against this most beneficent of all known preventives of disease.

The past year has given several demonstrations of the carelessness, ignorance, or perversity of physicians that are by no means creditable to our profession. In the very enlightened states of Ohio and Pennsylvania have errors been made in the diagnosis of variola and persistently adhered to until the disease spread far beyond the limits of its origin. No man is infallible, and some unusual forms of variola, as the malignant, the hemorrhagic, and some cases greatly modified by vaccination, may mislead for a time the most experienced. But to persist in error in opposition to more enlightened and expert opinions, and thus allow a disease to spread which ruins the business of a community and entails upon it a large expenditure of money, to say nothing of the resulting inconvenience, suffering, disfigurement, and death, is little short of criminal.

When a disease is so widely prevalent as smallpox has been for several years past, physicians should keep it in mind, and when called to strangers or those who may have been in an infected locality, they would do well to ask themselves the question: "Is this a case of smallpox?" Until this question can be definitely answered in the negative, let the case be isolated and every sanitary precaution be taken. Better quarantine a hundred cases of varicella than to run any risk of starting a smallpox epidemic.

Little less culpable than persistent errors in diagnosis are long delays in making a diagnosis, unless the strictest sanitary precautions are observed while awaiting developments. Some physicians never report a case of variola, even when it is prevailing in a community, until the second or third day of the eruption, free intercourse with the patient being allowed in the meantime, with the result of communicating the disease to one or more persons who, under proper management, would have escaped it. While such a practice is absolutely without excuse, personal experience has taught me that it is by no means uncommon.

The facts here recited lead me to impress these suggestions on the general practitioner:

1. Insist on general vaccination and use your influence in having the best virus inserted with all antiseptic precautions. I use the glycerinized in closed glass tubes.

2. Try to avoid errors in diagnosis. If in doubt, call to your aid the proper health officer or some one more familiar than yourself with smallpox. Do not tenaciously adhere to an opinion that the case is varicella if an adverse opinion is expressed by a physician of larger experience with variola than is your own. The

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sanitary officer will err, if at all, on the side of the public safety. Such errors are excusable, but mistakes that result in the spread of a vile disease, however unavoidable they may at times be, the public is always quick to condemn. All will recall the erroneous diagnosis in Montreal, which gave to that city 3000 cases of smallpox. Such mistakes are liable to cause the physician making them to have unpleasant reflections. Let no false pride lead any one to postpone reporting a case, lest it develop into some other disease than variola. It is a comfort to divide responsibility with some one, and in the cases referred to the health official is the proper person.

3. Make your diagnosis as early as possible and at once report the case to the health authorities. As soon as suspicious symptoms present, isolate the patient and vaccinate every exposed person.

If these suggestions be carefully followed by all physicians the health authorities will have little trouble with smallpox, and epidemics of this disease will become rare. But, alas for human fallibility and perversity, mistakes will continue to occur and this dread disease will continue to get a good start in some communities, and the health authorities will, though often unjustly, be held responsible for its spread. During the course of an epidemic cases will occasionally occur that are so very mild as to pass unrecognized, no physician being called. I recall five such cases in a somewhat recent experience, one of which gave rise to three and another to eight new cases. The sanitary officer is completely helpless in such cases as these, in which the modifying influence of vaccination becomes a positive source of danger. He is also helpless when cases are concealed, as occasionally happens. Some years ago I found a young man dead from confluent smallpox, to whom a physician had never been called. In the same family were two sisters convalescent from the disease. During the existence of these three cases the father and a son continued at work in a large iron mill, and the female members of the family milked three cows and distributed the milk to the neighbors. The above facts illustrate some of the difficulties with which the sanitary officer has to contend, and enforce the importance of preventing epidemics, which is so much easier than to stop them.

As a result of ten years' experience as a health officer I have formulated these rules for my own guidance in the sanitary management of smallpox, and hope they may be respectfully considered by any who may be called on to control this disease unaided by such complete organization as is provided by the boards of health of our larger cities.

1. Clothed in mackintosh and with the hair covered, promptly visit every reported case and vaccinate every person in the house and in adjoining ones. Make a list of all persons who have in any way been exposed to the patient. Remove the affected one to the hospital, or to an isolated building that may be thus used. If this can not be accomplished put the patient in the most isolated room in the house, with every unnecessary thing, including all domestic animals, removed. Hang a sheet over the doorway, allowing it to touch the floor, and keep it saturated with a bichlorid solution. The nurse, well protected by recent smallpox or recent vaccination, must be confined as strictly as the patient. No nurse who has had smallpox years before should be employed without being vaccinated. I once made that blunder. The nurse contracted the disease again, and from him seven other cases arose. I have succeeded perfectly in vaccinating persons well pitted by a former attack of smallpox. Vaccinate the nurse daily with different virus until you get a result or are reasonably certain that he is immune.

2. Search out all persons on your list and vaccinate them and keep under observation for sixteen days. As with the nurse and family, I perfer to use both bovine and humanized virus. You have thus two chances of success. Experience leads me to regard the humanized as more certain, more speedy, and less severe in its action. For these reasons I prefer it in emergencies.

3. Guard the premises day and night. I recognize the fact that in exceptional cases, when one has intelligent and honorable people to deal with, a guard is not necessary, but such cases are rare.

4. After the patient's recovery use daily hot disinfecting baths until the skin is entirely free from all of the scales of the original eruption. Pay particular attention to the head, palms, and soles. In case of death, wrap the patient in a sheet saturated with a strong bichlorid solution, put in a tight coffin and bury at once. Let no one assist in the burial who is not well protected against the disease, and see that every sanitary precaution is practiced.

5. After the infected room has been vacated make it as tight as possible; thoroughly steam it by placing a vessel of water over a gasoline stove near the middle of the room. Follow this immediately with sulphur fumigation, and allow the room to be closed for twenty-four hours, examining occasionally to insure thorough burning of the sulphur. Good reports are made as to formaldehyde disinfection, but I have never used it. It may in time displace sulphur. After reopening the room soak in a strong bichlorid solution and afterward boil such articles as can be washed. Remove in a covered cart and burn all others.

6. Send to the house a reliable person well instructed in the art of cleaning. Have the ceiling, walls, floor, wood work, in short, everything that is in the room or a part of it, well washed with bichlorid solution. If a trained disinfecting corps is available this work is much simplified. Having none, my practice has been to select two women for this work and give them much personal supervision until they have learned what is required and how to perform their duties. No family but the most intelligent can be trusted to clean and disinfect their own premises after smallpox. Painful experience has impressed this lesson on me.

No claim is made that any new thing is here presented, but only a modest effort to systematize the health officer's work, that no essential duty may be overlooked. How much easier would his work become if all people would but heed the lessons of experience and universally submit to vaccination and revaccination? The result would simply be a speedy disappearance of this vile disease. I am inclined to agree with Dr. Whittaker, who, in speaking of vaccination, says: "All the contributions to the welfare of mankind made in the whole realms of law and theology do not compare with this simple contribution of medicine." It is too late in the century to present an argument in favor of vaccination, but here are a few facts drawn from Wheeling's 146 cases in 1895. There were sixteen deaths, all of persons never vaccinated. This was 26 per cent. of the unvaccinated. Not a serious case occurred among those who had ever been vaccinated. Many of them took no medicine and were never confined to bed for an hour. Not one case occurred among persons protected by recent vaccination. Two young infants, vaccinated after their mothers were attacked with varioloid, continued to nurse at the ma-

ternal breast without contracting the disease. Nearly all of the patients, including those in the pesthouse, were nursed by persons protected only by vaccination. Not one of these, who had been recently successfully vaccinated, took the disease. Three of our worst cases, one fatal and the others almost so, were second attacks. My experience teaches me to regard a recent good vaccination as a better protection against, and especially against death from, smallpox, than is the disease itself, unless the attack of the latter was recent. Death in second attacks is by no means rare. Marson's statistics—15,000 cases— show a mortality among this class of 19 per cent. I have never seen nor heard of a smallpox death after a recent successful vaccination.

An isolation hospital I regard as next in importance to vaccination in the sanitary management of smallpox. Hence, I fail to comprehend a statement made by Dr. Whittaker[1] that "the maintainance of a pesthouse is a superfluous expense and a reflection on the intelligence of a community," unless he means that were the people sufficiently intelligent to secure universal vaccination such an institution would not be required. In this sentiment I fully agree, but, taking people as we find them, a hospital is safe and economical as compared with home isolation and quarantine. When the health officer gets a patient from the home into a hospital he feels a mighty burden lifted from him, for so long as the patient is at home one can never be certain that the disease will not spread by careless management.

In conclusion I would urge two lessons as especially important. One is that which Captain Miles Standish so well learned after a very painful experience, viz.:

> If you would have a thing well done,
> You must do it yourself, you must not leave it to others.

Not less important is this: *Obsta principiis!* Resist the beginnings! Stop the disease, if possible, at the first case, at any cost of energy or money. The most unwise economy is that which seeks to stop the progress of smallpox by cheap methods. It must be fought like fire in its inception. This I believe to be the truest economy.

DISCUSSION OF PAPERS OF DRS. PROBST AND JEPSON.

DR. AMAND RAVOLD, St. Louis, Mo.—I would like to speak of our experience with an outbreak of smallpox which occurred in St. Louis last winter, and the valuable lessons it taught us. The first case came to us from New Mexico, November 15, 1898, in the person of a traveling man who had been selling goods in that Territory. He was sick and came to his home in St. Louis, in a Pullman car. He called in a general practitioner, who diagnosed his malady as chicken-pox, but not feeling sure about it, called to his aid a dermatologist who has had an extensive experience with smallpox, and is especially skilled in the diagnosis of that disease. Both physicians agreed in the diagnosis of chicken-pox, the patient made a rapid recovery, and in a few days went back to New Mexico, traveling all the way in Pullman cars. On November 29, fourteen days after he reached his home, another member of his family, a man, was taken sick. The same physicians saw this case and pronounced it chicken-pox. About the same time, however, a child, 3½ years old, was also taken sick and soon showed unmistakable evidence of smallpox. Two other cases of smallpox also developed in this household. The physicians promptly acknowledged their mistake, and the patients were sent to quarantine. These teach two important facts: 1, the necessity of a most careful scrutiny and isolation of all cases of chicken-pox, and 2, of a most rigid and thorough disinfection of all Pullman cars at the end of a long run. Some days later, a negro walked into the city dispensary with an eruption of smallpox on him, and, following this case, the disease spread rapidly among the poorer negroes of our city. Now, although we have no laws compelling vaccination, the Health Department vaccinated the whole male negro population of the city and as many of the women as could be captured. During cold weather, negro men congregate and sleep in what are known as "barrel houses." In these low, filthy saloons they sleep on the floor as thickly crowded together as the floor space will permit, sometimes more than a hundred in a room. It is well known that the negro objects strenuously to vaccination, and it is interesting to record that a great number of primary vaccinations were made on full-grown men. Our vaccinators, protected by a number of policemen, would suddenly, at night, enter a barrel house and compel every man to bare his arm, and, if he could show no recent scar, vaccinate him. It was only in this high-handed manner that the Health Department finally stamped out the disease among the negroes. Another patient who forcibly demonstrated the crying need that a thoroughly efficient method of disinfection for railroad coaches be at once adopted by the Pullman Co., came into our city from the west in a Pullman car. The disease was quickly diagnosed, and sent to quarantine. The car was disinfected according to the Pullman method, by spraying sheets hung upon the bell rope, with formol, and then closing the car for three hours. The car was then scrubbed and cleaned by a negro porter, who had not been near the car before its disinfection. Within the proper incubation period, fourteen days, this porter developed smallpox, and was sent to quarantine, where he died. At the request of Health Commissioner Starkloff, we afterward carried out a series of experiments for the purpose of ascertaining the value of the disinfection method employed by the Pullman company, and found it, as used by them, absolutely unreliable.

The death of a child from tetanus following vaccination brought up another important question, and that is, which is the best and safest virus to use? Lymph spread on the point of a quill or ivory point, or glycerinized vaccin? Personally, I use glycerinized vaccin only, because I know from several trials which I have made that glycerin kills all non-sporé-forming bacteria put into it in the course of several weeks, and therefore, in a degree makes use of glycerinized vaccin that much safer, but whether or not it kills the spores of the tetanus bacillus I do not know. It is a question worthy of careful study. The case in point is as follows: A boy about 12 years of age, together with a number of other children, was vaccinated, on the same day, at school, by a physician from the Health Department. The physician is a middle-aged, extremely careful, conscientious man. The virus used by him came from the Higgins' vaccin farm, and was spread on pointed ivory slips. After having been vaccinated on the arm, and while standing near a radiator waiting for the wound to dry, the boy fainted. He soon recovered and, on reaching home, his mother bandaged up his vaccinated arm with a dirty cloth. The arm was quite sore on the seventh day, an ulcer formed, and later a scab grew over it. On the twenty-second day the scab fell off the wound, leaving a large, ragged ulcer below. On this day he complained of some stiffness of the vaccinated arm, and of a slight rigidity of the jaws, and seemed to be "grinning all the time," his mother said. He was treated by Dr. F. E. Chase, who, at my request, wrote a history of the case and published it in the *Medical Review*, St. Louis, in May. Although a bacteriologic examination of the wound was not made, I am nevertheless convinced that the doctor was not mistaken in his diagnosis of tetanus. From the history of the case, however, I am positive that the bacillus of tetanus was not invaccinated, but sown in the wound by the dirty methods employed in the treatment of the ulcer, on an uncleanly child, by an ignorant mother. Further, of all the other children vaccinated that day, not one developed the disease or showed an untoward symptom. Nevertheless, the Health Department was threatened with a law suit by the parents of the child. I am confident that if glycerinized vaccin had been used we would have felt more comfortable. The lesson taught by this experience emphasizes the fact that vaccination is a surgical procedure in every sense of the word, and should be carried out with the very strictest regard to aseptic surgery. We can not too emphatically impress our patients with the fact, and remember it ourselves, that from the inception of the wound until its complete healing first, last, and all the time, perfect

[1] Lancet-Clinic, Nov. 26, 1898.

cleanliness, as near as we can attain it, is the essential thing.

DR. C. O. PROBST, Columbus, Ohio.—There is one question brought up by Dr. Ravold. We have had two deaths reported in our state from tetanus following vaccination, one in Cleveland and one in the city of Columbus; and it has done a very great deal to delay the vaccination of our people. Tetanus developed in from three to four weeks after vaccination. We have with us an eminent bacteriologist, and I want to propose the question to Surgeon-General Sternberg as to the incubation period of tetanus. Is it not a fact that if tetanus should be introduced at the time of the vaccination, it would develop in less than twenty-one days?

SURGEON-GENERAL GEO. M. STERNBERG, Washington, D. C.—I can not tell you exactly the period of incubation in tetanus. My knowledge of bacteriology does not fit me to answer that question offhand any better than the others here who have had an opportunity of studying and observing tetanus following a wound. That is where you get your best evidence. My impression is that at any time from six to seven days up to a longer period, fifteen to sixteen days, perhaps, tetanus may develop. I would not want to speak in a positive way without looking up the records a little. But with reference to tetanus following vaccination, I should say that the great probability is that tetanus is due to an infection subsequent to the operation of vaccination; that it is due to dirt getting into the ulcer rather than to tetanus spores introduced at the time of vaccination. It is true that if there is neglect on the part of those who collect the vaccin, there is a possibility of tetanus spores being present if the calf has not been properly cared for; and if the abdomen where it has been scarified and where the vaccination pustules develop has been soiled by earth, you would expect to have tetanus spores there; this should be borne in mind carefully. The glycerinated lymph is certainly a great improvement, because of the fact that most bacteria very soon die out in the glycerin, but as to the tetanus spores, they are very resistant, and I doubt very much whether they would quickly die out in glycerin. All non-spore-bearing micro-organisms do perish within a short time in the glycerinated lymph, while the vaccin infectious material, whatever it be, preserves its full power for a long time, but tetanus spores would probably retain their vitality in glycerin for a considerable time. I think that is a matter well worth looking into, and which some of our bacteriologists ought to determine by experiment.

INFECTIOUS ULCERATIVE STOMATITIS.*

BY JOHN S. MARSHALL, M.D.,
CHICAGO.

Stomatitis is an inflammation of the mucous membrane of the mouth. All inflammatory conditions which involve the gums, the inner surfaces of the cheeks, the lips and the tongue are usually included under the general term, "stomatitis." The affections which are thus included are, with few exceptions, confined to the period of infancy and childhood. Adults seldom suffer from these affections except as manifestations of some other morbid condition. The forms of inflammation of the mouth which are most common are stomatitis simplex, stomatitis catarrhalis, stomatitis aphthosa, stomatitis parasitica and stomatitis ulcerosa.

A clinical study of the inflammatory affections of the mucous membranes of the mouth will reveal in certain features a close resemblance to the inflammatory affections as they appear in the skin, while in other points they will present features which are common to inflammatory conditions of the mucous membrane in general. It has frequently been noticed, that "in measles a spotty or macular eruption appears upon the oral mucous membrane, and in scarlatina punctate or diffuse scarlet eruption," while "in smallpox, chickenpox, herpes, pemphigus, and in foot-and-mouth disease"—an infection from cattle—"there are eruptions of vesicles and pustules, which pass through the same stages as those of the skin." (Ziegler.) Erysipelas of the face not infrequently presents an inflamed condition of the oral and nasal mucous membrane, with phenomena similar to those of the skin, while syphilis and scurvy are accompanied by characteristic oral symptoms. Diphtheria is not always confined to the tonsils, pharynx, uvula and velum palati, but may likewise involve other portions of the mouth. Certain drugs, also, such as mercury and iodin and the mineral acids, often produce inflammatory conditions of the oral mucous membrane and of the gingivæ.

Stomatitis Simplex is the mildest form of stomatitis, and is generally expressed in a more or less intense redness of the surface of the mucous membrane of the cheeks, the lips and the gums, in the form of rose-red elevated patches, and is due to a localized hyperemia of the parts. It is usually found in infants and young children, and is generally associated with some form of gastric or intestinal derangement. It rarely persists for more than a few days, and as a rule disappears with the subsidence of the gastric or intestinal disturbance. It is rarely seen in the adult. Occasionally it may persist, and gradually pass into a severer type of the disease known as stomatitis catarrhalis.

Stomatitis Catarrhalis, or follicular stomatitis is an affection which is often a symptomatic expression of some more grave constitutional malady, such as inflammatory conditions of the alimentary and respiratory tracts, etc., though it may be induced by the local irritation of erupting teeth. It is common among children living in unsanitary districts, but is rarely seen in adults. The disease is characterized by a diffuse inflammation, spreading over the cheeks, lips and gums, and appearing upon the hard palate as streaks and patches. The papillæ of the tongue are affected, many of them appearing as prominent tubercles. The mucous glands become swollen and prominent, and can be readily felt by passing the finger over the surface of the membrane. Later they appear as "grayish or grayish-red elevations of the surface, surrounded by a reddened areola." (Ziegler.) Tiny crypts sometimes develop, which are caused by the retention of the secretions. Swelling of the tongue, lips, cheeks and gums often occurs, accompanied by fetor of the breath, heat and dryness of the mouth, followed by an excessive salivary secretion. In the severer cases the gums become soft and spongy, and bleed upon the slightest provocation. Fissures form at the angles of the mouth and upon the lips, with exudation and the formation of crusts. The constitutional symptoms are fever, diarrhea, thirst, loss of appetite and sleeplessness.

Stomatitis Aphthosa, or canker sore-mouth, is by some authorities thought to be a peculiar form of stomatitis catarrhalis, for the reason that the aphthous patches occur upon the oral mucous membrane during a catarrhal condition. The disease is most common in sickly children during the periods of dentition, and occasionally later in life in those who are debilitated from illness or debauchery. It often occurs in women during menstruation, in pregnancy, and during the puerperal period. Occasionally it is associated with pneumonia, bronchitis, diphtheria, exanthematous diseases, ague, whooping-cough and tonsillitis. The dis-

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ease appears in the form of small white or yellowish-white patches upon the mucous membrane of the edges of the tongue and at the gingivobuccal fold of the lips and the cheeks. They are slightly elevated above the surrounding membrane, and are exceedingly sensitive. The patches are surrounded by a more or less inflamed zone, and have a tendency to spread and coalesce, forming larger patches. The constitutional symptoms rarely exceed a slight elevation of temperature, loss of appetite, thirst and irritability.

Stomatitis Parasitica or Thrush is a parasitic or mycotic affection, generally found in the mouths of infants and little children. The fungus which produces the disease is known as the "thrush fungus" or *oidium albicans,* which grows upon and between the layers of the epithelium, but develops most rapidly upon the squamous type of epithelium. It is most common among ill-fed and bottle-fed children, and is due to unwholesome milk and improperly cleansed nursing-bottles. The disease is infectious, and in foundling and maternity hospitals it spreads rapidly from child to child, if great care is not exercised in sterilizing the food and the feeding apparatus. The growth of the organism is favored by an abnormal acidity of the oral secretion, a debilitated condition of the system and bad hygienic and sanitary surroundings.

The disease appears as small, white, elevated patches on the inside of the lips, cheeks, sides of the tongue and just within the corners of the mouth. The mouth is dry and feverish, and the salivary secretion is scanty. After two or three days the patches assume a curdy, or soft, cheesy appearance. This curdy surface, the "thrush film," is easily peeled off, and leaves a denuded surface which bleeds easily. It is soon covered again, however, by a new growth of the parasitic organism. The denuded surface is exceedingly sensitive, and renders feeding very painful, so that it is with great difficulty that little children can take food. The extension of the disease to the pharynx, esophagus, tonsils, hard palate and air-passages, is not an uncommon course for it to pursue.

The constitutional symptoms are elevation of temperature, disorders of the stomach and intestines, with vomiting and diarrhea. The excreta from the bowels are often greenish in color, mixed with curdy masses of milk, and are often exceedingly acrid, causing excoriation of the anus, buttock, perineum, etc. The disease is sometimes seen in adults who have suffered from prolonged and wasting diseases like typhoid fever, tuberculosis, etc. In little children the disease sometimes terminates fatally from exhaustion and inanition.

Stomatitis Ulcerosa is a much more serious condition than any of the forms of stomatitis which have been mentioned, and is more often seen by the stomatologist, for the reason that it most frequently occurs in children of from 5 to 10 years of age, who are suffering from debility, induced by disease, deficient food or unhealthy surroundings. It is occasionally seen in adults who have been debilitated from disease or debauchery. Local injuries and irritations from diseased teeth, and chronic poisoning by mercury, phosphorus, lead and copper (Ziegler) may also be causative factors in the production of the disease.

The disease is first manifest in the margins of the gums, usually in the anterior part of the mouth by swelling, redness, loosening of the gums from around the necks of the teeth, accompanied by tenderness or pain. The loosened festoons and margins later become very much swollen and congested, partially covering the crowns of the teeth; finally they take on a purple hue, soften and slough away as yellowish masses, leaving an irregular ulcerating surface. In the more serious cases, the progress of the ulceration is rapid, and often extends to the deeper tissues, involving the border of the alveolar process, which may become necrosed, resulting in the loss of considerable portions, and even of several teeth. The breath is fetid, the salivary secretions are increased, and often mixed with pus and blood. The lymphatics become swollen and tender. The cheeks and lips opposite the ulcerated portions of the gingivæ sometimes take on inflammatory conditions and ulceration, accompanied with considerable swelling. Food is taken with difficulty. The disease usually appears as an acute affection, but occasionally it becomes chronic, and lasts for months, in which case it becomes troublesome to cure. (Tomes.)

The constitutional symptoms in the milder cases which involve only a limited area of ulceration are slight febrile disturbances and loss of appetite, which lasts for a few days and subsides upon the healing of the ulcerations. In the more severe cases in which the ulceration is extensive, involving the periosteum and the bone, the temperature may run quite high, and not subside for several days. The high fever is accompanied by thirst, loss of appetite and great restlessness. The disease sometimes resembles gangrenous stomatitis, or *gangrena oris.*

With this brief résumé of the history of the various forms of stomatitis which are generally recognized, and which I have introduced for the purpose of comparison, I desire to call attention to another form of ulcerative stomatitis which sometimes follows injuries to the gums from the extraction of the teeth, abrasions from hard foods or the vigorous use of the tooth brush etc., and for which I propose the term *Stomatitis Ulcerosa Nocens* or "Infectious Ulcerative Stomatitis."

The clinical characteristics of this form of the disease are the formation of ulcers at some point of injury, which at first appears in nowise different from the ordinary form of a localized ulcerative stomatitis, but which after the lapse of twenty-four to forty-eight hours, begins to spread rapidly along the margins of the gingivæ in all directions, involving both jaws and sometimes extending to the hard palate and the floor of the mouth. The margins of the gums assume a general ulcerative condition, accompanied by swelling, redness and considerable congestion of the parts, which bleed easily. Later they become covered with a dirty-white or yellowish-white pellicle or membrane—somewhat resembling the thrush film—which sloughs off after a day or two, destroying the festoons and leaving a ragged surface. The denuded surface is very red, and covered with coarse granulations which bleed upon the slightest provocation. The gums are loosened from the neck of the teeth, and the borders of the alveolar processes are exposed. Pus mixed with blood exudes from the inflamed tissue about the necks of the teeth. The breath and excretions are very fetid, and salivation is profuse. In these respects the symptoms resemble mercurial ptyalism. The ulcerated surfaces are exceedingly sensitive, and motions of the tongue and lips on this account are quite painful. Food is taken with difficulty. Accompanying the local manifestations there is a general febrile condition, temperature ranging from 100 to 101 F., thirst, loss of appetite and general malaise, sleeplessness and irritability of temper.

In illustration of the above clinical features of the

disease, the following histories of cases are introduced.

CASE 1.—Mr. A., an American, aged 24 years, clerk, was referred for special treatment by Dr. P. I. Lawrence, Chicago.

This gentleman had an abscessed lower molar of the right side extracted, which had caused considerable swelling of the jaw. The gum tissue had been somewhat lacerated upon the lingual side in the effort to remove the offending root. Two days later he returned with the injured gum ulcerated, the ulceration spreading to the adjoining teeth. Antiseptics had been used to cleanse the mouth, the alveolus irrigated and dressed, and a antiseptic mouth-wash prescribed. The disease, however, spread so rapidly that in forty-eight hours the gums of the entire lower jaw were involved, and it had attacked the anterior portion of the upper jaw. This was the condition when the case first came under my notice.

Diligent inquiry could not discover any constitutional conditions, like syphilis, mercurial or lead poisoning, etc., which would account for the presence of the disease. He had, however, recently been ill for a couple of weeks from a mild attack of la grippe.

Treatment.—The treatment consisted of first cleansing the mouth by irrigating it with a saturated solution of boric acid, followed by a 50 per cent. solution of 12-volume hydrogen peroxid in water, sprayed into the mouth and the approximal spaces between the teeth. The mouth was again irrigated with the boric acid solution, to remove all debris and the foam caused by the use of the peroxid, after which the gums were carefully dried and protected with rolls of bibulous paper, and the ulcerated surfaces swabbed with a 10 per cent. solution of zinc chlorid. The patient was furnished with a bulb atomizer and instructed to spray the mouth every two hours with 25 per cent. Listerine solution. This line of treatment was followed every day for a week, except the application of the zinc chlorid, which did not seem necessary after the third day, as marked improvement took place from this date. The case was discharged cured at the end of ten days.

The only constitutional treatment was a saline cathartic, which seemed to be indicated to relieve a tendency to constipation. The fact that local treatment alone, except that just indicated, was sufficient to control the case, precludes the possibility of syphilitic infection being the cause of the affection.

CASE 2.—This was a married man, aged 34 years, of English birth, formerly a practicing dentist, but now an expert accountant.

History.—The patient stated that he had been overworked of late, and not well, that his gums had been congested and bled when the teeth were brushed; and, thinking that perhaps he had not been vigorous enough in the use of the tooth-brush, bought a new one that was quite hard and gave them a most thorough brushing before retiring. Next morning his mouth was so greatly inflamed that he could not use the tooth-brush, masticate his food, nor even take a cup of hot coffee. For the next two days he tried to allay the inflammation with various soothing preparations, with no benefit. At this stage of the case he presented himself for examination and treatment.

Examination of the mouth revealed extensive ulceration of the margins of the gums of both jaws, with ulcerating streaks upon the roof of the mouth, extending from the region of the first molars on each side nearly to the median line, and looking as though they had been cauterized with silver nitrate. The ulcerations in all parts of the mouth were covered with the same dirty-white or yellowish-white film, and all the other symptoms corresponding to those of Case 1. In Case 2, however, nearly every tooth in the mouth had a ring of salivary calculus encircling the cervix. This was no doubt the cause of the congested condition of the gums which induced the bleeding on brushing.

Treatment.—This consisted of first cleansing the mouth, and then removing the salivary calculus. In all other respects the treatment was the same as in Case 1. He made a rapid recovery, and was discharged at the end of two weeks.

CASE 3.—This case was almost identical with Case 1. It originated from the same cause, viz., the extraction of an abscessed lower molar, followed by ulceration of the gingival wound, and extension of the ulcerative process to the gingival borders of both jaws. In this case, which occurred in a young Jew, 24 years of age, there was a clear history of syphilis; infection having taken place two years before. He had visited Hot Springs and taken a course of treatment, but had taken no mercury nor iodid since his return four months before.

Treatment.—The treatment prescribed in the other cases was followed in this, excepting that after the third day, in consultation with his family physician, he was placed on the usual course of the iodids. From the first he rapidly improved under the local treatment, and at the end of ten days the local symptoms had disappeared. From this I think the inference may be safely drawn that the local disease was not the result of his syphilitic condition, as it is hardly to be supposed that the constitutional effect of the iodids would be manifested in so short a period, while at the same time it was evident that the case was improving before the iodids were administered.

Neither can the first or third cases be fairly attributed to infection from unclean instruments, as I am sure that the greatest care was observed in both cases to prevent such a contingency. The explanation would rather, it seems to me, be that of autoinfection from the pus micro-organism of the alveolar abscess coming in contact with a freshly wounded surface of the gum, or from some of the other pathogenic organisms which so constantly inhabit the mouths of even cleanly persons.

The second case was also, without doubt, due to auto-infection from the last-named causes, through the brushing and lacerating of the already inflamed gums; thus furnishing the only condition lacking before to establish an infectious inflammation, which by reason of the debilitated condition of the system, it was unable to successfully resist. The acute character of the symptoms and the rapid spreading of the ulceration from the initial point of injury, seem to prove the infectious nature of the disease.

Not to Be Told Assistant.—In the English case of Ensor vs. Wakefield, in an action for slander brought against a physician for stating to his assistant that an attending physician in a case where he had been called in was drunk, the Queen's Bench Division decided against the contention that this was a privileged communication. Judge Ridley, in passing on the question, said: "I am sorry this case has taken this line. I am quite clear that there was no duty upon the defendant to make a communication of this sort to his assistant. There was no duty which enabled a doctor to tell an assistant that another doctor who attended a patient was asked not to attend that patient for a particular reason. I therefore hold that there was no privilege."

ALOPECIA.*

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The alopecia to be considered in this paper is the form of the disease that so commonly affects young adults, and which has no observable connection with any other disease.

In the male, this form is of very frequent occurrence. In the female, on the contrary, it is comparatively infrequent. Now, when a farmer finds his expected crop of wheat or corn a failure in some places, and a success in others, he at once asks himself: how does the soil where the failures exist differ from that where the crop is satisfactory? Is it, in comparison, more wet or more dry, more stony or more sandy, or what is the difference, for difference there must be, otherwise the crops would be the same? In the same manner, the investigator, seeking the cause of alopecia, and finding the disease common in one sex and rare in the other, may ask himself, what difference is there between the sexes that can affect the nutritive properties of the scalp? Is it a difference dependent on physical structure, habits or mode of life, or what is it?

Whatever it may be, it can not have to do entirely with any permanent anatomical difference between the sexes, such, for instance, as the presence of beard in the one and its absence in the other; for if it did, alopecia in the male would be practically universal. It must be a condition present in some cases and absent in others. To the writer, the most important one of all lies in the fact that in the male there is often a mode of respiration that allows of undisturbed retention of residual air at the apices of the lungs, while in the female this condition is almost never found, except among the aged. The reasons for this difference may be explained as follows: Through the provision of Nature, to provide breathing space during gestation, females have a more easily expansible thorax than have males. This is of the commonest observation. In "Gray's Anatomy" we find the following: "The ribs are more generally movable in the female than in the male." Observation shows this to apply particularly to the ribs of the upper part of the thorax. Again, the mode of dress of the female, of at least all civilized nations, is such that descent of the diaphragm, sufficient to permit of the so-called abdominal mode of respiration is completely prevented.

In the male these conditions are reversed. The costal mode of respiration is made difficult by the lessened mobility of the ribs, particularly of those of the upper part of the thorax. "Gray's Anatomy" says: "The first rib is more fixed than the others, on account of the weight of the upper extremity and the strain of the ribs beneath." Abdominal breathing, on the other hand, is made easy by the absence of any resistance to the free descent of the diaphragm.

These facts are submitted to prove that in females costal respiration is regularly found, while in males, on the other hand, abdominal respiration is very frequently met with. Foster, in his "Medical Dictionary," defines costal respiration as "due chiefly to the elevation and depression of the ribs, especially the upper ones, the diaphragm taking a comparatively small part," and abdominal respiration as "due principally to the contraction of the diaphragm and the elasticity of the abdominal walls and the viscera." Now, considering the great elasticity of all gases, it is evident that in costal breathing it is at the apices of the lungs that the greatest movement of air takes place, while in the abdominal variety it is in the lower lobes of the lung that the same action is produced. All this is given in support of the statement made at the beginning of this paper, that, at the apices of the lungs of males residual air is more often found, and less often disturbed, than it is in the case of females.

Now, it seems not unreasonable to suppose that residual air, resting undisturbed in any part of the lungs in close contact with venous blood, will soon lose its supply of oxygen, and also will soon become saturated with the excrementitious materials, carbon dioxid, watery vapor and organic substances, the normal constituents of respired air. And also, that when this has occurred, blood coming to it from the right side of the heart, to have its carbon dioxid and other substances exchanged for oxygen, will return to the general arterial circulation, not only without the oxygen, but possibly with its original load of impurities increased.

Considering the foregoing we may deduce the following: Frequently in males, infrequently in females, there is vitiation of the blood brought about by faulty breathing. It is the contention of the writer that observed facts show this depraved blood to be, in some way, intimately connected with the etiology of alopecia. The manner in which it acts, however, is simply conjecture. However, if one keeps in mind how various substances, such as lead, digitalis, ergot, etc., once introduced into the blood current, choose particular organs or tissues on which to exert their peculiar effects, it is not very difficult to imagine that the gases or solids of ordinary respired air circulating in the same blood current may have a similar selective action in reference to the tissues under discussion. Or, again, it may seem not impossible that these excrementitious substances, left in the blood, may lower the vitality of the whole system; and on this account that part of the body may suffer most which has the poorest nourishment. This might explain why, in alopecia only that part of the scalp is affected that is farthest from the heart and lies over the unyielding tendinous aponeurosis of the occipito-frontalis muscle. The writer inclines to this view. Still, some change may be produced in or by the altered blood, to permit of the development of a special microbe, which may be the direct cause of the disease. If this is so it is in accordance with the theory of Sebourard published two years ago that alopecia is caused by long chains of microbes present in the hair follicles themselves.

To establish a theory, however, results rather than methods are important. The writer has studied this theory, and experimented with a line of treatment based on it during the past eight years. This has been, in the main, direction to the patient to see that in respiration the upper part of the thorax is continually expanded and contracted, or, in other words, to see that inspired air is not allowed to become stagnant at the apices of the lungs. A local treatment of secondary importance will be described later.

All this may seem very simple, but experience with it shows that such is not the case. To get a patient to make continual muscular effort to carry on a vital function, that all his life has been an automatic one, demands of the physician much and oft-repeated persuasion and direction. The chief difficulty lies in getting him to persist in the treatment long enough to get

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promising results. When he has done this, however, the rest of the way is plainer sailing, not only on account of the encouragement from the prospect of success, but also on account of the changed mode of respiration becoming more fixed and natural.

In every case in which the directions of treatment have been followed explicitly, the results have been such as to lead the writer to believe that the theory on which the treatment is founded is a sound one. These results occur as follows: A week or ten days after the establishment of the treatment, the dandruff, which is almost becomes more moist and oily; also the clavicles, usually prominent in these cases, begin to disappear from view, always present, disappears entirely and the hair itself and also the appetite and general vigor of the patient improve. This seems to lend support to the view, mentioned above, that the alopecia is connected with a lowering of the vitality of the whole system. At this time, too, the nails become more soft and pliable, a circumstance not surprising, when one considers how they and the hair are appendages of the same cutaneous tissue. After some weeks, usually two to four, the exact time depending on the thoroughness with which the treatment is carried out and also probably on the physical condition of the patient as well, new hairs begin to appear, first among those left standing, and then as sort of outposts along the margin of the bald areas. The new growth may be described as backing up against the course followed by the hairs in disappearing; so that the places which were the last to become bald are the first to become covered again. The process of recovery is a slow one and somewhat resembles the progress of the original disease.

The new hairs do not resemble the slender, light-colored lanugo hairs, so often seen to appear as a result of simple friction and stimulation of the scalp. They are of good size and correspond in color with their more hardy neighbors. Their vitality, however, is for a long time below normal; and with any continuous interruption of the treatment they readily fall out. With rigid observance of the details of treatment, however, they mature and become permanent.

The cases suitable for treatment include all that have the follicles intact. Those, where for a long time the whole upper part of the head has been bald, and where there is atrophy, both of the hair follicles and of the subcutaneous cellular tissue as well, so that the scalp, stretched and polished, bears outlines of the sutures and other inequalities of the skull beneath, are probably beyond the reach of any form of treatment.

There is another difference between the habits of the male and female, concerning this subject, that is of great importance, though secondary to the matter of respiration. This is in respect to the mode of wearing the hair, and the manipulation of it. In women it is worn long and is much combed and brushed. There results from these circumstances two important effects. The first is that each particular hair has each day more or less strain put on it, with the result that those that are poorly nourished or dead are drawn from their follicles, as nature intended they should be, and an opportunity given for new hairs to develop from the papillæ thus set free. It has been estimated that the number of hairs normally shed each day from a healthy human scalp ranges from thirteen to two hundred. The second effect from the combing and brushing of long hair is that the scalp itself is irritated and is to some extent lifted from the underlying tissue. These circumstances result in a more or less hyperemia, which causes improved nutrition of the part.

In the male, generally speaking, the reverse of all this occurs. The hair is commonly worn short, and the combing and brushing bestowed on it amount to very little. And finally, when the hair begins to fall out and the need of every kind of stimulation becomes the greatest, it is usually cut shorter than ever and the comb and brush applied more lightly every day, in the hope of retaining in place as many of the hairs as possible. As a result of this wrong method of procedure, the scalp as a whole receives less blood than it should have and many of the hair follicles are left holding dead hairs, and their presence in time destroys the follicles.

Thus in the treatment of alopecia, we have, in the first place to modify the nutritive properties of the scalp or the fibro-cellular tissue beneath the scalp, or of both. This is accomplished by some change in the blood itself, brought about by getting with each act of respiration fresh air to all parts of the upper lobes of the lungs. This can be done only by the continuous use of the so-called costal mode of breathing. In the second place, as an adjuvant to the first, we have to remove from the hair follicles any dead or dying hairs that may be present, and also to stimulate the local circulation of the blood. These results can be accomplished by pressing the hair between the extended fingers and drawing smartly in the direction in which the hairs grow, or, where the hair is absent, by roughly crowding the scalp up into folds or ridges with the fingers. These manipulations should be carried out once or twice a day.

Along with all this, local stimulation by means of irritating applications is of value. The physician has any number of these from which to make a choice. One, consisting of 5 gr. of cerate of cantharides in an ounce of vaselin, or other oily substance, will serve as a type.

Now, the experience of one investigator has rarely, if ever, established a theory. In some places, even to-day, the value of vaccination as a prophylactic of smallpox is vigorously disputed. As said above, the writer thinks the theory here advanced is a sound one. He will never know whether it is or not however until it has been tested far beyond the limits of his own field of observation; and in the hope that its contents may not be wholly unconsidered by the profession, this paper is respectfully submitted.

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DISCUSSION.

DR. J. F. SCHAMBERG, Philadelphia—It seems to me that the view advanced by the writer as to the cause of alopecia must be regarded as mere conjecture or thory. He has overlooked the fact that hair growth is a secondary sexual characteristic, and that this in itself accounts for the difference of hair growth in men and women. There is no difference in the anatomic structure of the hair follicle itself, but there is in the luxuriance and longevity of growth. It is well known that if a man is emasculated, the hair growth, at least on the face, becomes modified and stunted, provided the operation is performed before the period of full sexual development. If the theory advanced be true, we ought to commonly observe alopecia in flat-chested individuals, and but rarely in robust men of great chest expansion. It ought, moreover, to be more frequent in women than in men, because of the greater expansion in the latter. At the last meeting of the AMERICAN MEDICAL ASSOCIATION, Dr. Blaine of Colorado, presented an equally original but no more convincing theory of the cause of baldness, claiming that shaving, as it increased the facial hair growth, drew away vitality from the hair of the scalp and therefore interfered with the growth in that region. He therefore advised men during the period of young adult life to allow the beard to grow in order not to deflect the innervation from its proper channel.

DR. A. E. CARRIER, Detroit, Mich.—If Dr. Parker was satisfied that residual air was the cause of his cases of alopecia, he should have attempted to overcome that condition, but should not have used any of the preparations which we ordinarily use in the treatment of this affection. However, he says he has used these as secondary measures. He has not proved his theory because he has not based his treatment on it alone.

DR. D. L. PARKER, Detroit, Mich.—In reply to the point made by Dr. Carrier, use is made of the remedies used regularly for the purpose of treatment of alopecia. Did you ever see a case of full recovery under the simple use of a stimulating line of treatment? In some of the cases referred to in the paper, improvement has taken place without recourse to local stimulation, but since the latter helps to bring the blood to the hair itself, and the more we get there the better and quicker the results of the treatment, I have added this to the treatment. I think my theory is based on sound principles, and hope I may have opportunity of making a report at some future time supplementing this.

ON SOME OF THE USES OF PEROXID OF HYDROGEN IN DERMATOLOGY.*

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Specific action of remedies is a thing much desired in medicine, but rarely attained, as relatively few exist whose action can be depended on to be always the same. This is sometimes due to variation in the strength or quality of the remedy, and sometimes to the varying condition of disease.

Peroxid of hydrogen is a chemical combination of the ingredients of pure water, which always produces definite effects on the tissues with which it comes in contact, and under similar conditions will produce like results. But in order to have these results it is necessary that the article should be pure and fresh, for it is rather an unstable substance, and liable both to be imperfectly made and to alter and become less effective with time. In order, therefore, to secure the best results, great care should be exercised to secure a good preparation and that it be reasonably fresh, for specimens which decompose and generate gas are undoubtedly weakened.

Peroxid of hydrogen is an oxidizing substance, and destructive of organic life. All are probably acquainted with its action in the presence of pus, when it causes a bubbling or sizzing, which can be heard; it is not so generally known that about the same occurs when it is brought in contact with a freshly bleeding surface.

As is known, its action is parasiticidal and antiseptic, and it has found great use in connection with the treatment of suppurating surfaces and cavities, and in surgical procedures. There are some conditions which come under the care of the dermatologist where it is of great service.

The first of these, as might be expected, is *ulcer of the leg,* whether varicose or from other cause. Here the thorough application of it twice daily will sometimes be followed by the most brilliant results, when associated with other proper treatment. My plan is to have it applied, in full strength, as furnished, on a bit of absorbent cotton thoroughly soaked with it and laid over the raw surface for five minutes, morning and night. I generally have the application changed several times with each dressing, in order that the affected surface may be very thoroughly soaked and permeated by the peroxid. The same holds good in regard to ulcers of various characters, and in obstinate syphilitic ulcerations I have also seen the greatest benefit from the free use of the peroxid.

In many cases of superficial *epithelioma,* where a radical operation by excision is not practicable or is not allowed, the peroxid is of great value in promoting healthy cicatrization after the use of milder destructive agents. After curetting I frequently soak the surface well with it before applying a dressing, and if the surface is slow to heal I have the patient apply the same morning and night, before putting on the appropriate ointment. Also after mild cauterization the peroxid hastens the fall of the slough and subsequent cicatrization.

After operation on *lupus* the peroxid is also a very valuable adjuvant, and in a recent case where the lupus nodules were destroyed by frequent applications of a solution of arsenious acid, and the diseased tissue was about removed, the free use of the peroxid produced healing in a remarkably short time.

The *bleaching* properties of peroxid have long been used for changing the color of the hair, and advantage may be taken of this in connection with the growth of superfluous hair on the face of women. In a very considerable number of cases I have employed it, where the hair was too fine to admit of its removal by electrolysis, and yet where it was very perceptible and troublesome. Especially on the upper lip of girls, this condition is often the source of much distress. Here the slight downy moustaché will be composed of innumerable fine hairs, perhaps with a few stronger ones at the ends, and it is quite impracticable in the early stages to practice electrolysis. Here the free and repeated use of the peroxid will produce a very material improvement in the appearance in a very short time. By blanching the hairs a moustache which was very striking will hardly be noticeable at a short distance.

But another advantage in the use of the peroxid in *hirsuties,* which, I believe, has not been heretofore mentioned, is a certain retarding influence which it exerts on the growth of the hair. This I have noticed in a number of instances for the past two or three years, much to the delight of several patients. This result is slow, but with a faithful continuance of the remedy the fine growth of hairs certainly diminishes; some of the stronger ones seem to grow and they can be removed by electrolysis.

In applying the peroxid to such cases it is often well to begin by diluting it one-half with water, and increasing the strength gradually, for when a strong specimen is applied to the healthy skin it will sometimes cause a desquamation, which is unpleasant.

Chloasma is another condition of the skin in which the action of the peroxid is sometimes very satisfactory, but sometimes it seems to fail. To be effectual it should be very freely applied, and allowed to soak into the skin, by means of cotton soaked in it, as spoken of for ulcers. It will cause somewhat of a desquamation, but this can be easily remedied by the use of a little lanolin and rose ointment, or by a borax and glycerin lotion.

In speaking thus of the local action of the peroxid I do not wish to overestimate its value, but simply to present my experience in the use of what has at times been of much aid to me in practice. It is a definitely acting, oxidizing agent, whose uses and value will undoubtedly increase with further clinical experience.

4 E. Thirty-Seventh Street.

*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

DISCUSSION.

DR. DOUGLASS W. MONTGOMERY, San Francisco—I wish to speak of the blanching effect of peroxid of hydrogen on surplus hairs. I have used it, and found it to have a remarkably happy effect. In these patients having a downy growth of fine, dark hair, which is almost impossible to remove by electrolysis, hydrogen peroxid used from time to time as occasion requires has an excellent effect. I have never observed, however, that it diminished the growth of hair. It would be rather surprising to me if it should, considering that so many "chemical blondes" use it for years with apparently no detrimental effect on the growth of the hair. I have never tried it in chloasma, but think it might have a temporary effect in blanching the skin. I can not see that it is likely to do any permanent good.

DR. J. C. DUNN, Pittsburg, Pa.—I have used peroxid in cases of pigmentary disturbance and in cases of chloasma, and I have been disappointed in its use, not only when applied locally for freckles, but for deeper discolorations where I injected it into the skin. I have not used it for the blanching of hairs which appear on the faces of women, and I am a little surprised to hear the Chairman and gentlemen who have just spoken, mention this use as a beneficial one. If a woman is a blond, the hairs are already white, and in the case of a brunette, where the hairs correspond to the skin, it strikes me the white hairs would be a little bit more prominent than otherwise.

DR. FRED. J. LEVISEUR, New York City—I believe that hydrogen peroxid is very useful in the treatment of hirsuties. It should be given a trial particularly whenever it is not feasible to remove the superfluous hair by electrolysis. It deprives the dark hairs of their coloring matter and, by bleaching them, renders them less conspicuous. This pleasing cosmetic effect keeps patients from the injurious applications of depilatories or the pumice stone, or the nefarious use of the epilating forceps or the razor. I have in a number of instances seen the growth of hair retarded and a quantity of the fine hairs entirely disappear from its use. This seems to me, however, not to be due directly to a change produced in the hair or its root, but to the establishment of a slight but very chronic furfuraceous dermatitis which in turn is followed by alopecia.

DR. A. E. CARRIER, Detroit, Mich.—Two or three years ago a druggist told me that women were in the habit of using hydrogen peroxid for moth patches and superfluous hair, and I have since used it at his suggestion, but I have never seen the result that Dr. Bulkley claims for it.

DR. L. DUNCAN BULKLEY, New York City—I could hardly believe it myself, except that in the case of a half dozen patients the amount of hair has certainly been so diminished in a remarkable manner. But it must be thoroughly applied in order to be effective, and I tell patients to dip a piece of absorbent cotton in the peroxid, until soaked, and to apply this to the skin, leaving it on there until it falls off, which may take several minutes. This gives a soaking, penetrating application which you can not get by simply sopping it on. It penetrates deeper, I am sure, into the hair follicles. This treatment has not been a matter of a little time with me, but my cases go back two or three years, and I have repeatedly noted a diminution of hair on the upper lip.

DR. A. E. CARRIER, Detroit, Mich.—Some time ago I made experiments on a hairy arm, with a combination of baryta and lime, with results which were surprising to me. Application after application resulted in the complete destruction of the hair.

DELEGATE—Was any ulceration present?

DR. CARRIER—No, sir.

Therapeutics.

Treatment of Acute Urethritis.

In his recent work on "Genito-Urinary, Venereal and Sexual Diseases," Dr. G. Frank Lydston says, regarding the internal medication of acute urethritis, that alkalies should be given throughout the disease, either alone or in combination with other drugs. The fluid extract of pichi has an excellent effect in soothing the inflamed mucous membrane. Infusions of buchu, slippery elm, uva ursi, linseed, etc., are all beneficial. The ergots of rye and corn are recommended by some as having a specific effect. In the early stages ergot does not seem particularly serviceable. Later on, however, it has an astringent effect. It should be given in liberal doses. The fluid extract of corn silk, 1 dram every two or three hours, has been highly recommended in acute gonorrhea. The remedy is disappointing in acute inflammation. Thirty to sixty grains of potassium or sodium bromid at bedtime usually causes the desired effect. The following mixtures are serviceable:

℞. Fl. ext. ergotæ ..... m. xv
Tr. gelsemii ..... m. v
Potassii bromidi ..... gr. xx
Tr. hyoscyami ..... m. xxx
Syr. aurantii, q. s., ad ..... ℥ss.
M. Sig. At bedtime.

℞. Chloralis hydratis ..... gr. v
Tr. aconiti rad ..... m. iii
Sodii bromidi ..... gr. xxx
Aquæ camphoræ, q. s., ad ..... ℥ss.
M. Sig. At bedtime.

Either of these combinations will usually prevent or relieve chordee. Opiates may be necessary, however, if erections are frequent and painful. Opium is slightly stimulating to the sexual organs, which detracts somewhat from its efficiency as an anodyne in these cases. This may be counteracted by combining moderate doses of tincture of opium with either chloral or potassium bromid. Where drugs fail, the cold-water coil will afford relief, and in addition benefit the inflammation. If the patient sleeps on a hard bed, with a knotted towel about his waist so that he can not comfortably lie on his back, painful erections are not so apt to occur.

Morphia is sometimes necessary, and is best given by suppository, plain or in the following combination:

℞. Morph. sulph ..... gr. 1/12 to 1/3
Ext. hyoscyami ..... gr. ss.
Butyri cac, q. s.
M. Ft. suppos. No. 1. Sig. At bedtime.

The various balsamic preparations are most relied on in the treatment of gonorrhea. These should not usually be given during the increasing stage; more benefit is to be derived from them when not used early. There is no objection to the administration of sandalwood in the increasing stage; cubebs and copaiba, however, are more stimulating, and not advisable at this time. Sandalwood-oil is best administered in capsules containing from 10 to 15 minims. Of these from four to ten may be given daily. The limit of tolerance is sometimes indicated by gastric disturbance; more frequently by backache resembling lumbago, this being probably nephralgia from irritation of the kidneys. Sandalwood is more likely to cause this than copaiba and cubebs. During the stationary and declining stages copaiba and cubebs may be given. Of the two drugs, cubebs is more stimulating to the urethra, but least irritating to the stomach. Copaiba occasionally causes an unpleasant efflorescence or rash on the skin, sometimes simulating measles. Cubebs and copaiba may be given in doses of 10 to 20 drops of the oil four to five times daily, either in capsules or emulsion. The emulsion is preferable where the patient does not object to it. The doses of the balsams may be increased to the limit of tolerance. They should be given more liberally as the inflammation declines. The following balsamic emulsions are excellent:

℞. Liq. potassæ ..... ℥i
Bals. copaibæ ..... ℥i
Ol. gaultheriæ ..... m. x
Ext. glycyrrhizæ fl ..... ℥ss.
Saccharini, q. s.
Muc. acaciæ, q. s., ad ..... ℥iv
M. Sig. A teaspoonful every two or three hours.

℞. Ol. cinnamomi ..... m. x
Ol. cubebæ
Sp. etheris nit., ää ..... ℥ss
Muc. acaciæ, q. s., ad ..... ℥viii
M. Sig. A tablespoonful three or four times daily. Cubebs may be given in powder in doses of 1 dram two or three times daily; this sometimes agrees with the stomach better than

either the emulsion or capsule. The formulas given are merely illustrative. Vidal advocates the use of gurjun balsam in doses of 2 grams (30 grains) before each meal. Taylor recommends the tincture of cannabis sativa, 10 to 15 drops in water three or four times daily.

Regarding local medication in urethritis, Dr. Lydston advises that during the increasing stage of urethritis injections should usually be dispensed with; if used at all, they should be very mild. A solution of potassium permanganate, 1/5000, or mercury bichlorid in strength of 1/30,000 to 1/15,000 is about the best routine injection for use at this period. Some cases are materially benefited by injections at this time; in most instances, however, they are irritating. Even where the injection seems beneficial it may lose its effect in a few days, when it becomes necessary to supersede it by some of the ordinary astringents in mild solution.

Good judgment is necessary in using astringents. They frequently prevent the normal evolution of urethritis by condensing the tissues and damming up the natural avenues of germ-elimination. In lieu of the above injections during the increasing stage anodyne injections may be given, the following being useful formulas:

℞. Atropiæ sulph.....gr. ii
Bismuth subnit.....3iv
Muc. acaciæ
Aquæ dest., āā.....℥ii
M. Sig. Shake well and inject three times daily.

℞. Tr. opii deod.....3ii
Bismuth subnit.....3iv
Muc. acaciæ
Aquæ dest., āā.....℥ii
M. Sig. Shake well and inject three times daily.

℞. Morph. sulph.....gr. viii
Cocain mur.....gr. ii
Muc. acaciæ.....℥i
M. Sig. Inject three times daily.

A mild and sedative astringent may be combined with the anodynes:

℞. Plumbi acetatis.....gr. iv
Vini opii.....3ii
Aquæ rosæ, q. s., ad.....℥iv
M. Sig. Inject three times daily.

℞. Sodii biboratis.....gr. xx
Morph. sulph.....gr. vi
Aquæ rosæ.....℥iv
M. Sig. Inject three times daily.

In the stationary stage the strength of astringent injections may be slightly increased. It seems that it is not so much the form of astringent as the method of its use that determines the beneficial effects. Many astringents act about the same when properly used, although in some cases it is necessary to vary them. The most popular astringent is zinc sulphate. This is quite uniformly beneficial. Zinc sulphocarbolate or iodid is to be preferred. Silver nitrate in a strength of 1/8 to 1/2 grain to the ounce of water is often serviceable. Some recommend it as the best routine injection.

The following are illustrative astringent combinations:

℞. Zinci sulphate (or acetate).....gr. xii
Morph. sulph.....gr. x
Glycerini.....℥i
Aq. rosæ.....℥iii
M. Sig. Injection.

℞. Zinci sulphocarbolatis.....gr. xvi
Glycerini.....℥i
Aq. rosæ.....℥iii
M. Sig. Injection.

℞. Zinci iodidi.....gr. viii
Acidi carbolici.....gr. iv
Aquæ dest.....℥iv
M. Sig. Injection.

℞. Plumbi acetatis.....gr. xx
Tr. opii.....3ii
Aquæ rosæ, q. s., ad.....℥iv
M. Sig. Injection.

Vegetable astringents are often preferable to mineral. Matico, hydrastis, catechu, kino, and the like, are very popular; their efficacy depends on the tannic acid they contain. The muriate of hydrastin is very efficacious. An excellent vegetable astringent is the fluid extract of hamamelis Virginica. The following formula is very serviceable:

℞. Hydrastin mur.....gr. x
Ext. hamamelis fl.....3ii
Glycerini.....℥ss.
Aq. dest., q. s., ad.....℥iv
M. Sig. Injection.

As the inflammation subsides, the strength of injections may be increased. This should be cautiously done, however; in no instance should an injection that produces considerable pain be continued. Nothing more than slight smarting is warrantable. In some cases the injection does not produce much immediate discomfort, but smarting during micturition increases. Under such circumstances either the strength of the injection should be diminished or some other form submitted. This is especially pertinent to injections of mercury bichlorid. In using this drug in a strength of even 1/16 grain to the ounce, patients will often complain, in a day or two, of severe smarting in micturition.

Thallin sulphate is often of service in a strength of 20 grains to the ounce of rose water.

Iodoform emulsion has been used in acute urethritis, but it does not seem so efficacious as many other drugs. In chronic urethritis, however, it may be used to advantage if the patient does not object to its tell-tale odor.

Various new preparations of silver are becoming quite popular in the treatment of urethritis. There is a growing conviction that silver is the coming antiseptic *par excellence*. It is too early, as yet, to decide positively as to the merits of the new preparations; but so far as the author's experience has gone, they are very valuable. Injections of argonin, beginning with 2 per cent. and increasing gradually up to 8, or even 10 per cent., often act splendidly. Protargol in .5 per cent. solution appears to be less irritating and quite as reliable. Nargol, a new combination of silver and nucleins, merits a trial. Mercurol, the latest mercurial antiseptic, seems promising.

Indications for Balsamics in Gonorrhea.

In a recent clinic at the Hospital St. Louis, Professor Fournier said that balsamics, to be followed by good results in gonorrhea, must be administered according to certain definite rules.

1. As an abortive treatment,the employment of balsamics is always attended with failure.

2. The treatment of gleet, morning drop, by balsamics is equally unsuccessful.

3. Balsamics are not indicated during the acute inflammatory stage of acute urethritis, and if they are administered in this stage one of two conditions may result: either there remains a light discharge consisting of a few drops, during the day, or there remains the morning drop. But, now, if their administration be discontinued, the discharge reappears with its former abundance. The untimely employment of balsamics is the cause of 80 per cent of blennorrhea or gleet.

4. Balsamics should not be employed before the end of the first month of the disease. At about this time the discharge is three-fourths lessened, has lost its greenish tinge, and is light yellowish. The timely administration of balsamics is followed in the great majority of cases by recovery. The inflammatory period, however, must be over. There must be absence of pain on urination, absence of chordee, and diminution of the discharge, which must be yellowish and ropy.

5. Balsamics must be given in large doses, a mixture of 10 grams (2½ dr.) of cubebs and 3 grams (47 grains) of copaiba is usually successful. Sandalwood and other preparations give equally good results. It is important to begin with large doses, and continue them for ten or twelve days, then gradually diminish the dose, for a sudden stoppage of the medicament would be followed by a return of the discharge.

6. The drug must be given thrice daily during the entire treatment. The amount of fluids ingested should be limited to avoid too great dilution of the balsamic eliminated.

7. There is no advantage in alternating the balsamics. The one that has been selected is to be continued. If at the end of ten days the discharge is not almost completely checked, discontinue the remedy for from eight to ten days. At the end of that time give it another trial.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Standard (Chicago), December.

1.— Etiology and Significance of Uterine Displacements. H. D. Niles.
2.— Pathogenesis and Therapeutic Indications of Functional Nervous Diseases. John Punton.
3.— Eighty-six Cases of Anesthesia. Anna E. Blount.
4.—*Management of Acute Delirious Mania. Frank C. Hoyt.

Chicago Medical Recorder, November.

5.—*Complications of Diphtheria. I. A. Abt.
6.—*Value and Necessity of Bacteriologic Examinations in All Cases of Sore Throat. G. H. Weaver.
7.— Six Tumors of the Brain. Hugh T. Patrick.
8.—*Case of Raynaud's Disease. H. N. Moyer.
9.— Plastic Operation on Fallopian Tubes: Cirrhosis of Liver: Gastroenterostomy for Pelvic Neoplasm. Emil Ries.
10.—*Report of Case of Intestinal Obstruction following Vaginal Hysterectomy. T. J. Watkins.
11.— Implantation of Both Ureters into Sigmoid Flexure. Carl Beck.
12.— Stretching of Nerve for Sciatica. A. B. Strong.
13.—*Case of Erysipelas of Nose and Maxillary Sinus Complicated by Facial Erysipelas. O. J. Stein.
14.—*Case Showing Simultaneously the Eruptions of Psoriasis and Dermatitis Herpetiformis. L. C. Pardee.
15.—*Double Psoas Abscess Treated by Open Method; Incision Internal to Anterior Superior Spinous Process of Ilium; Curettage and Drainage; Apparently Cured. A. H. Ferguson.
16.— Some Demonstrations in Proctoscopy. J. R. Pennington.

Chicago Clinic, November.

17.— Unique Case of Double Inguinal Hernia: Illustrated. W. T. Eckley and Chas. Davison.
18.— Diagnosis of Incipient Phthisis. J. H. Salisbury.
19.— Membranous Conjunctivitis Produced by Bacillus Influenza; Foreign Body Imbedded in Lens Removed by Electro-Magnet. F. A. Phillips.
20.— Anesthesia and Anesthetics. W. A. Kuflewski.

Archives of Pediatrics (N. Y.), December.

21.—*Importance of Prolonged Rest in Bed after Acute Cardiac Inflammation in Children. L. Emmett Holt.
22.—*Case of Heart Lesions. A. C. Cotton.
23.— Peliosis Rheumatica in a Lymphatic Child. J. Park West.
24.— Case of Multiple Osteomyelitis in an Infant. T. M. Rotch.
25.— Scorbutic Membranous Colitis. J. H. Fruitnight.
26.—*Infantile Scurvy—Mild Type. Francis Huber.
27.— Use of Gruels as Diluents of Cow's Milk. H. D. Chapin.
28.— Diphtheria and Serum-Therapy, with Especial Reference to Cuba. L. Duenas.
29.— Case of Hydrocele of the Cord Following an Operation for Strangulated Inguinal Hernia. Burr B. Mosher.
Irwin.
30.— Strangulation of Fetus in Utero by the Umbilical Cord. J. W.

Medical Herald (St. Joseph, Mo.), October.

31.— Intestinal Auto-Intoxication: Its Prevention and Treatment. F. W. Barclay.
32.— Scrofulous Diathesis. A. E. King.
33.— Death by Electricity. F. E. Coulter.
34.— New Method of Administering Creosote. W. H. Vail.

Illinois Medical Journal (Springfield), December.

35.— Use of Schleich's Mixture for General Anesthesia in 110 Operations in the Nose and Throat. W. K. McLaughlin.
36.—*Adipose Tissue an Etiologic Factor in Hernia. A. H. Ferguson.
37.—*Surgical Treatment of Hemorrhage from Gastric Ulcers, with Reports of Two Cases and Animal Experiments. E. Wyllys Andrews and D. N. Eisendrath.
38.— Influence of Biologic Research on Surgery and Medicine. W. J. Fernald.

Yale Medical Journal (New Haven, Conn.), December.

39.— Successful Case of Gastro-Enterostomy. Charles E. Taft.
40.—*Etiology of Acute Peritonitis. W. L. Barber.
41.—*Diagnosis of Peritonitis. W. H. Carmalt.
42.—*Treatment of Acute Peritonitis. T. H. Russell.

American Medical Compend (Toledo, Ohio), December.

43.— Acute Rheumatism; Gonorrheal. Wm. A. Dickey.
44.— Introduction to Hematology. J. H. Jacobson.
45.— Notes on Variation of Glycosuria in Diabetics. Frederick Kraus, Jr.

Journal of Nervous and Mental Diseases (N. Y.), December.

46.—*Common Forms of Meningitis, and Their Recognition, with Special Reference to Serous Meningitis. C. L. Dana.
47.—*Notes on Three Anomalous Cases in one Family. H. C. Wood.
48.— Acute Delirious Mania. F. J. Mann.
49.—*Case of Subdural Hemorrhage Causing Anemia, without any other Form of Aphasia. G. M. Hammond.
50.— Motor Aphasia. J. Fraenkel and B. Onuf.
51.— Anomia and Paranomia, with Some Considerations Regarding the Naming Center in the Temporal Lobe. C. K. Mills.

Medical and Surgical Bulletin (Nashville, Tenn.), November.

52.— Operation on Cervical Ganglia of the Sympathetic for Epilepsy, Glaucoma and Exophthalmic Goiter. Emory Lanphear.

Memphis Medical Monthly, December.

53.—*Grain of Truth and the Grain of Salt. E. H. Martin.
54.—*Medicine of To-day. Frank A. Jones.
55.— American Gynecology. Byron Robinson.
56.— Malarial Hematuria. J. K. Hampson.
57.— Four Cases of Appendicitis. T. J. Crofford.

Cleveland Medical Gazette, November.

58.—*Study of Visceral Anatomy. Byron Robinson.
59.— Report and Discussion of a Case. Howard S. Straight.
60.— Tuberculosis of Hip-Joint. H. A. Becker.
61.—*Simple Device for Rapid Hypodermoclysis in Combatting Shock. E. O'Neill Kane.

St. Louis Medical and Surgical Journal.

62.— Clinical Consideration of Chorea. Milton P. Creel.
63.— Burns and Their Treatment. H. B. McKlveen.

Dominion Medical Monthly (Toronto), November.

64.—*Diseases of the Kidney, Amenable to Surgical Treatment. Christian Fenger.
65.— Notes on Diagnosis of Diseases of the Stomach. Graham Chambers.

International Journal of Surgery (N. Y.), December.

66.—*Value of Operative Treatment in Spina Bifida, with Description of New Method of Closing Cleft in the Spine. W. B. Reid.
67.— Regional Minor Surgery. G. G. Van Schaick.
68.— Introductory to Mechanical Diagnosis and Treatment of Urethral Diseases. F. C. Valentine.
69.—*Modern Surgical Treatment of Hemorrhoids. G. M. Blech.
70.— Technic of Surgical Gynecology. A. H. Goelet.
71.— Treatment of Fractures. W. L. Estes.
72.— Drainage of Uterus. Marcell Hartwig.
73.— Case of External Esophagotomy. C. H. Magee.
74.—*Complete Prolapse of Ovarian Tumor Through Anus: Operation: Recovery. J. H. Baughman.
75.— Scar Tetanus. C. B. Kibler.
76.— Asepsis in Emergencies. W. C. Wood.
77.— Which is Preferable, the Subcutaneous Nailing or Wire Suturing of United Fractures? W. L. Hughlett.

Indiana Medical Journal (Indianapolis), December.

78.—*Clinical Features of Malarial Fever at Camp Mount. W. T. S. Dodds.
79.—*Surgery of Inguinal Hernia. W. V. Morgan.
80.— Relation of Sinus Disease and Meningitis to Purulent Disease of the Middle Ear. Walker Schell.

Louisville Monthly Journal of Medicine and Surgery, December.

81.—*Intestinal Obstruction from Biliary Calculi. J. Wesley Bovée.
82.— Lithiasis. R. A. Bate.
83.—*Vesico-Rectal Anastomosis. Jacob Frank.
84.—*Surgical Tolerance and Results. F. F. Bryan.
85.—*Modern Surgical Treatment of Hemorrhoids. G. M. Blech.
86.—*Intolerant Ulceration of the Rectum. S. B. Taylor.

Journal of Medicine and Science (Portland, Me.), November.

87.—*Ethmoid Bone and Nasal Catarrh. Arthur F. Sumner.
88.—*Antitoxin in Diphtheria. L. D. Rand.
89.—*Hypodermic Syringe in Vaccination. F. H. Gardiner.
90.— Urethral Instrumentation in the Male. B. B. Foster.

Alabama Medical and Surgical Age (Birmingham), November.

91.— Report of Some Sarcomata of the Jaws. W. H. Hudson.
92.— Pus Involving Viscera and Adjacent Structures. W. G. Bogart.
93.— Some Remarks on Typhoid Fever. T. L. Robertson.
94.— Orchitis. W. T. Berry.

Ft. Wayne (Ind.) Medical Journal-Magazine, November.

95.—*Forcible Corrections of Spinal Curvatures. Frank Greenwell.

Texas Medical Journal (Austin), December.

96.— Evils of Present Methods of Education. J. S. Lankford.
97.—*Rational Treatment of Smallpox. T. C. Osborn.
98.— A Walking Case of Typhoid Fever—Perforation and Death. J. H. Reuss.
99.— Intestinal Suture and the Use of a Potato Cylinder. M. B. Saunders.

American Therapist (N. Y.), November.

100.—*Formalin: Its Good and Bad Qualities. Ely Van de Warker.
101.— Papain in Children's Practice. Dr. Goliner.
102.— Clinical Observations on Peptomangan. Paul Chester.

Medical Age (Detroit, Mich.), November 25.

103.—*Case of Raynaud's Disease. Harold N. Moyer.
104.— Case of Triple Fracture of Forearm; Compound Fractures of Radius and Ulna United with Silver Wire. C. W. Hitchcock.

Medical Fortnightly (St. Louis, Mo.), December 1.

105.—*Lithopedion with Specimen and Pathological Report. E. A. Crain.
106.—*Physiology. A. L. Benedict.
107.— Scattered Leaves From a Physician's Diary: the Professor of Bacteriology. Albert Abrams.

Virginia Medical Semi-Monthly (Richmond), November 24.

108.— What Shall Be Done with Illegal Practitioners in the State? R. S. Martin.
109.—*Four Recent Cases of Gall-Stones, with Remarks. Hunter McGuire.
110.—*Fevers of Southside Virginia. Henry C. Beckett.
111.—*Blisters in Pneumonia. Jesse Ewell.
112.— Penetrating Injuries of Eyeball. John P. Davidson.
113.— Alexander Operation in Retrodeviations of Uterus. Hugh M. Taylor.
114.—*Cold Water—Internally as well as Externally—in Treatment of Typhoid Fever. J. N. Killough.
115.— Malnutrition and Its Treatment. Walter Sands Mills.

Philadelphia Medical Journal, December 9.

116.— Law of the Action of Medicines. Elmer F. Gould.
117.—*Pyelonephritis of Pregnancy. Charles B. Reed.
118.—*Finsen Phototherapy. George G. Hopkins.
119.—*Improved Method for Control of High Temperature of Human Body with a Minimum of Shock and Discomfort to the Patient. C. C. Booth.

120.—*"Saturation Method" in Management of Laparotomy. Stewart Lewis.
121.—*Abdominal Hysterectomy at 79. J. F. Baldwin.

Medical News (N. Y.), December 16.

122.—*Treatment of Pneumonia as Based on Recent Views as to Its Pathology. Andrew H. Smith.
123.—*Exploration of Abdomen as an Adjunct to Every Celiotomy. Howard A. Kelly.
124.—*Neurasthenia; Its Symptoms and Treatment. Landon C. Grey.
125.—*Bacteriology of Typhoid Fever. Wm. H. Park.
126 — Ulcerative Stomatitis: Aneurysm of Aorta; Chronic Nephritis; Erysipelas of Face. H. A. Hare.
127.— Treatment of Peritoneal Cavity in Certain Rare Forms of Infection from Appendicitis. John A. Wyeth.

New York Medical Journal, December 16.

128.—*Micrococcus Intertriginis Rossbach. Max Meyer.
129.—*Study of Shortening of Tibia and Femur in Fifty Cases of Tuberculous Disease of Hip Joint. Russell A. Hibbs.
130.—*Confined Suppuration of Frontal Sinus, with Spontaneous Rupture, including Report of a Case. D. Braden Kyle.
131.—*Fibrous Tumor of Naso-Pharynx. Sequel. E. Fletcher Ingals.
132 —*Potentialities of the Physician. (*Concluded.*) Kenneth W. Millican.
133.—*Rhinedema. H. Holbrook Curtis.
134.— California Climate and Chronic Diseases of Kidneys. William H. Dukeman.
135.— Radical Cure of Hallux Valgus. Russell S. Fowler.
136.—*Malarial Infection as Factor in Causing Eye Disease. Paul Turner Vaughan.

Cincinnati Lancet-Clinic, December 16.

137.— Fish Bone in Rectum. G. J. Monroe.

AMERICAN.

4. **Acute Delirious Mania.**—This condition, described by Hoyt, is especially difficult to treat, and he recommends hypernutrition as the first thing, the food to be administered by the nasal tube, if not taken voluntarily. Before it is introduced the stomach should be thoroughly washed out, and this procedure should be carried out not less than twice and often three or four times daily, with an alkaline fluid, and continued until this comes away clear. The food should be wholly or partially predigested whenever digestion is much impaired. In other cases malted milk, milk and eggs and nutritious broths will answer. A mild laxative with the morning dose and a hypnotic with the evening one are required. He condemns bromids, chloral, opium, etc., to induce sleep, favoring the use of paraldhyde in preference. In very excited cases a maximum dose of 4 drams can be given without danger, but this is seldom required. The function of the skin must be carefully watched, and blanket baths may be given. Hospital treatment is required.

5.—See abstract in JOURNAL, October 28, p. 1100.

6.—Ibid, p. 1099.

8. **Raynaud's Disease.**—Moyer's patient was a man, 35 years of age. In some respects, the case resembles erythromelalgia. The pain was greater than commonly occurs in Raynaud's disease, and the redness which accompanied the swelling persisted a long time preceding the death of the part. It is well to remember that there are typical examples of erythromelalgia complicating Raynaud's disease, he says. The distinction is not an important one, as both conditions belong to disturbances in the innervation of the smaller arterioles. The main thing to be borne in mind in the diagnosis is to distinguish cases of gangrene due to thrombosis which are accompanied with marked vascular degeneration. One of the notable things in the history of the patient is the great number of attacks—twelve—covering a period of nearly eight years, and in only two instances have the attacks occurred simultaneously in two parts: in every other instance the preceding attack was completely healed before the following one appeared. The absence of left radial pulse, as well as the right, though it may be due to anatomic peculiarities entirely apart from the disease, is a significant coincidence. This paper is also published elsewhere, see title 103, this issue.

10.—See abstract in JOURNAL, October 28, p. 1098.

13. **Erysipelas with Complications.**—Stein's case demonstrates the importance of nasal inflammations as a cause of some cases of facial erysipelas that have often been designated as idiopathic. A patient, 35 years of age, of previously good health excepting a "chronic catarrh of the head," was taken suddenly ill with a temperature of 105 F., full, strong and rapid pulse, repeated vomiting attacks, and severe headache and pain over the region of the right cheek bone. On inspection, the right nares was found swollen and of a dusky red color and of glazed appearance, filled with a fetid muco-purulent secretion. There was marked tenderness on pressure over the right malar region, and tapping on the second molar tooth on the same side elicited painful sensations. The nostrils were flushed with an alkaline solution. The following morning temperature was reduced to 102.5 F., and by evening to 100.25 F. The nostril showed yellow pus under the anterior end of the middle turbinated body. The purulent discharge from the nose was now more free and profuse, and as a consequence, there was much less pain and tenderness over the parts. A bacteriologic examination of the secretions demonstrated the streptococcus erysipelatosus. On the third day the first signs of the cutaneous involvement made their appearance, which rapidly spread over the entire nose, forehead and right and left cheek, so that by the fourth day the entire face was involved. Cultures were taken from the vesicles and pustules on the skin and showed the streptococcus erysipelatosus. After ten days the entire cutaneous as well as nasal symptoms subsided.

14. **Psoriasis and Dermatitis Herpetiformis.**—Pardee's patient presented the eruptions of these two conditions simultaneously. Psoriasis developed ten years ago, at the age of 17, and then evidences of this disease have always been present on his skin; at times he has been nearly free of it for a considerable period, and again his entire body has been covered with the typical, dry, scaly eruption. Two years ago he began to experience violent itching of the skin of the back and limbs in regions not attacked by the psoriasis. This symptom persisted some months, and then there appeared, in the locations mentioned, groups of vesicles. These ranged from 2 to 3 mm. in diameter and occurred singly or in groups of from four to ten, arising from apparently normal skin, and also from an inflamed and reddened base. They were at first filled with clear and later with turbid fluid, soon forming crusts which dropped off, leaving a reddened and somewhat pigmented site. They showed no tendency to spontaneous rupture. Some of the groups were distinctly herpetiform in character, and others showed less regular arrangement. Mingled with these groups were occasional wheal-like elevations and numerous typical, unaltered psoriasis patches. Microscopic examination of a typical vesicle, 2 mm. in diameter, excised from the upper arm, showed practically the process described by Gilchrist (*Johns Hopkins Hospital Reports*, Vol. i). In addition there was noticed a phenomenon described by Pardee in connection with a severe case of herpes iris (*Bul. of the Johns Hopkins Hospital*, July, 1898), i. e., the rapid killing and disintegration of the polymorphonuclear leucocytes immediately on their leaving the blood-vessels. The diagnosis of a concomitant dermatitis herpetiformis was based on the clinical history, which was quite typical of the vesicular type of this disease, and the picture presented at the time of examination, which, apart from the intermingled psoriasis papules and patches, was quite clear. The microscopic findings could only be mistaken for those of a severe herpes iris, the clinical appearance of which was not even suggested.

15. **Double Psoas Abscess.**—Ferguson's patient was a boy, 5 years of age, on whom he had operated for double psoas abscess, treated by the open method. An incision was made internal to the anterior superior spinous process of the ilium, the abscess cavity curetted and drained, with complete recovery of the patient.

21. **Cardiac Inflammation in Children.**—Holt calls attention to the importance of maintaining rest in bed in the treatmen of children with acute cardiac inflammation, not only for two or three weeks but even for months. With adults the amount of work required of the heart may be regulated after the patient is sitting up or even moving about, but with children this is impossible, therefore strict confinement to bed is essential and should be continued long enough for the heart to regain its tone and the circulation to readjust itself. He has not found it as difficult in practice to carry out this method as he had anticipated, and he reports two cases showing its benefit and one where neglect was disastrous.

22. **Case of Heart Lesions.**—In the case reported by Cotton there were found the following lesions: stenosis of the pulmonary conus; malformation of the pulmonary valves; aneurysm of the ventricle wall; acute mural endocarditis; defective—perforate—ventricular septum; together with pleural, pulmon-

ary, hepatic, and renal disease, also disease of the spleen and general anemia. The streptococcus was found in the lungs and in the aneurysm of the heart wall.

26. **Infantile Scurvy.**—Huber describes scurvy of a mild type as it occurs in children brought up on condensed milk, artificial foods of various kinds and sterilized milk diluted with water or cereals. The patients are of the well-to-do class and rachitic. The prominent symptoms are tenderness, restlessness and prolonged spells of screaming and crying. No digestive disturbances, vomiting, colicky pains, etc., were noticed, nor were hemorrhages observed, while slight swelling occurred in but one case. The legs were stiff and did not move with the freedom observed in health. The patients were rapidly relieved by the administration of fruit juices.

36.—See abstract in JOURNAL, June 3, p. 1256.

37.—Ibid.

40. **Etiology of Peritonitis.**—Barber notices among the causes of peritonitis, traumatism, extension of inflammation from adjoining organs, and in the male, especially appendicitis. He concludes as follows: The etiologic and bacterial study of peritonitis shows, then, as a summary—1. It is due to bacteria, but not alone; there must be a primary condition for its culture and growth. 2. The bacterial species can be classified, but not by their clinical or symptomatic character, therefore valueless to the practitioner. 3. The classification according to causes, traumatic, secondary and perforative, defines and describes the method of infection. 4. The peritonitis of puerperal cases and of the traumatic, especially the post-operative, variety, is very liable to become general and prove rapidly fatal. 5. Perforative peritonitis, allowing general diffusion of toxins throughout the peritoneum, is always grave.

41. **Diagnosis of Peritonitis.**—After noticing the pathologic condition of aseptic and septic peritonitis, Carmalt describes the symptoms and general appearance of septic peritonitis, the peculiar facies, the high-pitched, tremulous voice, the drawn up limbs, the distended abdomen, rapid, weak and thready pulse, temperature from 102 to 104 or over, and the marked leucocytosis. The most unreliable sign, in his opinion, is the temperature, and of late years he has begun to place more value on the blood count and to rely on it. Abdominal tenderness is not always present, though generally so. The same may be said of tympanitis. Vomiting, which is nearly always present at some stage, is one of the most distressing symptoms; when having passed through the fecal stage, it becomes dark brown or almost black, it is a symptom of the gravest import.

42. **Treatment of Acute Peritonitis.**—The use of opium formerly so general in this disease is strongly condemned by Russell, as is also that of antipyretics, which mask the symptoms and are liable to mislead the physician. The treatment here described and suggested is operative, and the principal cause of its frequent failure is its too long delay. The details of laparotomy for peritonitis are given at length. The author praises the method suggested by McCosh, of injecting magnesium sulphate directly into the cecum to promote drainage through the intestine, afterward closing the puncture with a Lembert suture. He considers this method essential in severe cases of suppurative peritonitis. The wound drainage is also required and the methods here described, gauze being preferred. Immediately after the operation, the injection of a pint of warm normal salt solution should be made and retained and followed every three hours by two-thirds of a pint in the rectum until shock is completely absent. If the patient is in a state of collapse, intravenous infusion should be resorted to. Strychnin and alcohol are the medical agents that are most efficient. Opium and its preparations should be avoided.

46. **Common Forms of Meningitis.**—At the present time we find in literature some twenty forms of meningitis described, without including "meningismus" or acute cerebral edema or acute and chronic hydrocephalus. Of these Dana excludes acute and chronic external pachymeningitis as merely surgical complications, and purulent pachymeningitis may also be dropped, while serous internal pachymeningitis is a pathologic curiosity. Acute syphilitic meningitis is certainly very rare if it exists, at least using the term in its ordinary sense; posterior basic meningitis is probably a syphilitic or tuberculous disease or a serous meningitis. Serous meningitis has three forms, traumatic, alcoholic, and infectious. The malignant and chronic forms are dubious, thus reducing the total number of forms to eleven, or dropping all temporal distinctions, to nine. In 137 cases treated at Bellevue Hospital, five forms were recognized in ordinary hospital practice and verified by autopsy. The diagnosis or recognition of the different forms is treated at some length and their nomenclature discussed. The serous meningites especially are noticed. The paper concludes with a description of the method of lumbar puncture for diagnostic purposes.

47. **Three Anomalous Cases.**—Wood here describes three cases, all of the same family and the same generation, two brothers and one sister, who suffered from local sensory motor and trophic symptoms in the limbs, which were puzzling as to their diagnosis. He does not think they are cases of neuritis nor of hysteria, as might be suggested in one or two of the cases. He is inclined to believe that there is an organic spinal degeneration, though it is difficult to class all three together by the symptoms.

49. **Anomia.**—The case reported by Hammond is that of a young man who received an injury to his head, causing a subdural hemorrhage over the superior temporal gyrus with a cerebral clot and laceration in its posterior portion. The symptoms were inability to use proper names, without other aphasic phenomena, the word-naming center, which has been in dispute, being apparently alone implicated. Operation and clearing out the clot produced improvement, and at the present time his power of recalling and using proper names is improved.

53.—See abstract in JOURNAL, December 2, p. 1419.

54.—Ibid.

58. **Study of Visceral Anatomy.**—Robinson advocates the foundation of chairs of descriptive anatomy, in medical schools, the course continuing throughout the whole four years. The instructor should be a practical abdominal surgeon, and the first year should be confined to the study of animal viscera. Every senior student should be instructed how to perform experiments, and should do a certain number, afterward making an autopsy. He believes that such a course would lessen the amateur and unnecessary abdominal surgery of the present day, and the slaughter of the genitals which is now so prevalent.

61. **Hypodermoclysis.**—Kane here describes a method of using a branched tube with several needles for hypodermic transfusion of saline solution, thus expediting the operation, which is ordinarily slow and therefore not so advantageous in many cases as it might be. The apparatus with four needles, he claims, can readily introduce from two to four quarts of the fluid into the tissues in half an hour.

64. **Surgery of the Kidneys.**—Fenger's paper is a very thorough description of the diseases of the kidneys amenable to surgical treatment, illustrated by cases. It is too detailed to be abstracted here, and the reader is referred to the original.

66. **Spina Bifida.**—Reid reports a case of spina bifida in a child 1 year old, operated on by aspiration and then dissection and excision of the sac, utilizing the stump to close the opening into the spinal canal and tearing up and loosening the periosteum around it; a plaster-of-Paris jacket was then applied. The operation resulted favorably and a temporary bridge promptly formed, closing the aperture. The tearing of the periosteum reproduced the condition of simple fracture, thus exciting the formation of a provisional and later of a permanent callus. The plaster-of-Paris jacket rendered the spine immovable, a necessary condition for any bony union.

69.—See abstract in JOURNAL, October 14, p. 977; this paper is also printed elsewhere, see title 85.

74.—Ibid, June 3, p. 1256.

78. **Malaria at Camp Mount.**—Dodds describes the experiences with malaria among the returned soldiers from the Cuban War, in Camp Mount at Indianapolis, and reports several cases in detail. He thinks much of the lack of success in these cases was due to undertreatment. Many of the unpleasant sequelæ can be directly traced to this cause. Successful treatment requires rest in bed. Quinin is specific, and while small doses suffice in the acute forms, in the chronic and pernicious stages, large ones are required. He used the hydrochlorate of quinin, which he thinks is the most soluble and has

less disagreeable after-effects. The bowels must be regulated and treatment with iron, strychnin and arsenic is a good adjuvant in the chronic and autumnal forms.

79. **Inguinal Hernia.**—After general remarks on the surgery of inguinal hernia, Morgan describes and illustrates an operation or modification, devised by himself, in which he transplants the neck of the sac under the external oblique muscle some distance from the ring, and secures the cord by a piece of aponeurosis carried across and sutured, thus surrounding the ring with a strong aponeurotic band, sewing up the rest of the opening with blanket sutures. The suspension of the testicles and shortening of the scrotum are also important points in his operation.

81.—See abstract in JOURNAL, October 14, p. 978.

83.—Ibid, p. 976.

84.—Ibid, October 21, p. 1042.

85.—See above, ¶ 69.

86.—See abstract in JOURNAL, October 14, p. 977.

87. **Ethmoid Bone and Nasal Catarrh.**—Sumner calls attention to the importance of the inflammatory processes in the ethmoid sinus, and suggests the prevalent catarrhal condition in New England as the cause of the nasal twang of the Yankee voice.

88. **Antitoxin in Diphtheria.**—Five cases are reported by Rand, of the use of antitoxin with striking results, and he believes that if every patient could be thus treated within twenty-four hours of the advent of the disease there would be very few if any deaths.

89. **Hypodermic Syringe in Vaccination.**—Gardiner has used the hypodermic syringe in vaccination with excellent results, introducing it simply under the skin. He thinks it has advantages over the scarification method, of saving time, impossibility of wiping off the virus, and therefore greater certainty of success, diminished pain and satisfactory scar. Its disadvantages are practically *nil* if antisepsis and proper virus are used. The too deep implantation of the virus is to be avoided.

95. **Forcible Correction of Spinal Curvature.**—The operation of rapid correction of spinal curvature by force has been but little tried in this country, according to Greenwell, and he discusses its advantages and disadvantages. He asks what surgical procedure in a disease so serious as this is free from danger, and the location must be considered in view of the possibility of paralysis after operation. Shock is not so much influenced by location, but long duration and high angles may render it a detail of importance. The danger of breaking up and rendering active latent abscesses is a possibility to be considered. The cases most favorable for the method are those in young subjects with the deformity below the middle dorsal region and of so short a duration as to be easily movable. As age increases, both of the patient and the disease, the chances of success decrease inversely to the number of vertebræ involved. After 20, a firm ankylosis should be let alone, unless paraplegia exists. He thinks the operation will stay with surgery, though applicable to a much smaller per cent. of cases than Calot at first thought. As the spine is rendered immovable, the result is in a measure imperfect at best.

97. **Rational Treatment of Smallpox.**—Osborn claims priority of the use of bichlorid sponging in smallpox. This treatment has been described by Bibb as a successful method. (See JOURNAL, December 2, ¶ 44, p. 1412.)

100. **Formalin.**—Although formalin has been stated to be non-irritant, non-toxic and non-corrosive, it is actively irritant and very poisonous and corrosive. Its gas is irrespirable, and its solution needs to be carried to a greater attenuation than corrosive sublimate before it can be applied to living tissue. Van de Warker reports several cases of poisoning by 4 and 5 per cent. or stronger solutions, one of which was fatal, and he thinks that we will before long have reports of more cases of poisoning by this agent. It has great value for surgical purposes, but needs to be used with caution, and he employs it in abscess cavities in solution of only from 1/10 to 1/15 per cent., and then makes sure of good drainage for fear of retention and absorption. A 2 per cent. solution will cause a superficial slough, and a 1 per cent. is quickly destructive to fresh granulation. The slough it causes is very characteristic, is tough and leathery and will cling indefinitely to the underlying surface. He illustrates its value by reporting cases of the destruction of tissue, the vitality of which was dangerous, as in the case of a retained placenta in extrauterine pregnancy and in malignant disease. The results were very good. It works more rapidly than arsenic paste and can be safely applied to the lips. In disinfecting a room with formalin, no apparatus is required other than tin pans placed over alcohol lamps—one or more pans, holding the proportionate quantity for the size of the room, the cracks and openings carefully stopped. If this is not done gas will leak into the halls and other rooms and make them very unpleasant for their occupants.

103.—See abstract above, ¶ 8.

105. **Lithopedion.**—Crain reports a case of apparent retained ovarian pregnancy. The pathologic report of Gradwohl of St. Louis confirms this opinion. The case is of interest as giving evidence of ovarian extrauterine pregnancy.

106. **Physiology.**—Benedict considers contractile tissues and mechanical action of voluntary muscles, also voice and speech, in this instalment of his series of papers on this subject.

109.—This paper appeared elsewhere as an original; see JOURNAL, December 9, title 61, p. 1478.

110. **Fevers in Virginia.**—Beckett describes the fevers existing in southern Virginia, which appear to be chiefly malarial and largely due to the neglected cultivation of the large estates since the Civil War, producing swamps and stagnant water. Autumnal fever seems to be the most common form in this region, and Beckett uses, besides the quinin treatment, giving 5 gr. every four hours, the ice-cap and sponge bath to reduce temperature. In some cases where the fever runs very high, he also uses acetanilid with great advantage, guarding its supposed depressant effect with strychnin and caffein. He has not found this agent dangerous in his experience. The principles of treatment in all these fevers are to fight the excessive temperature and keep up the patient's strength with proper nourishment, keeping the liver also in good order. Typhoid fever is something of a rarity, but he describes several phases of it which have been observed by him. Scarlet fever is also rare and generally mild.

111. **Blisters in Pneumonia.**—The use of blisters in pneumonia is strongly advocated by Ewell, following them with poultices frequently changed. He believes that the principle of treatment is, in pneumonia blister early and often, and if he should lose a patient without having done this, his conscience would tell him he had not done his duty.

114. **Cold Water in Typhoid Fever.**—Killough is a strong advocate of the free use of cold water both externally and internally in typhoid fever. For the bath he uses a large heavy oil or rubber cloth, slipping the patient on it and raising the sides and corners so as to make a bathtub without removing the patient from bed. A sufficient amount of water to cover the patient is poured into this. He calls special attention to this point of covering the body entirely. As a supplement to the bath he gives cold water enemata of from one-half gallon to one gallon two or three times a day, passing the tube above the sigmoid flexure. He also advises the patient to drink from one to two gallons of water every twenty-four hours, flavored if necessary with lemon juice. Too much stress, he thinks, can not be laid on this last point.

117. **Pyelonephritis in Pregnancy.**—The case reported by Reed is one of pyelonephritis terminating gradually after a premature labor. He discusses the condition and its literature and treatment. The outcome is usually favorable in simple cases. Its cause is attributed to pressure on the ureters, which are generally found dilated in pregnancy. The diagnosis is not difficult if the physician is alert, and the disorder is usually self-limited and disappears within two weeks after delivery. The object of treatment should be to relieve pain and combat infection of the urinary and alimentary tracts. For the first morphin is efficient. Vesicants should not be used near the kidneys. The bowels must be kept open and creosote is strongly recommended by Weber. In the case here reported, strychnia was used to support the heart in the latter part of the disease, and intestinal antiseptics were employed, though no marked benefit was observed from either. Some cases will certainly

prove fatal unless the uterus is evacuated, and the judgment of the physician must be exercised as to this. When labor does occur or is induced it should be quickly terminated by instrumental or other measures if necessary.

118. **Phototherapy.**—Hopkins describes an instrument for use in phototherapy after the manner of Finsen, already noticed editorially in the JOURNAL.

119. **Control of Temperature.**—Booth's method was suggested by the observation of a wet bulb thermometer, used in meteorologic observations. He wrapped his patient in wet gauze, supplying the moisture so that the temperature was reduced by evaporation, and claims that it is a promising method in diseases requiring such reduction of temperature.

120. **Saturation Method in Laparotomy.**—In the preparation of the patient for laparotomy, Lewis holds that two principles are of the first importance: 1, the emptying of the intestinal canal as far as possible, and 2, the saturation of the tissues to their physiologic limit. For the former he gives calomel and several mild purgations prior to the operation, with enemas shortly before it. For the latter he gives copious draughts of water, 6 to 8 ounces every two hours for forty-eight hours preceding the operation. After operation, while the patient is still unconscious, a quart of saline solution is given by enema, and as soon as ether vomiting has ceased, hot water is administered in a quantity sufficient to reach the stomach hot. The good results of this treatment are shown by lessened shock, rarity of headache, excessive thirst and wiry pulse, increase of urine of low specific gravity and absence of irritable bladder and post-operative nephritis.

121. **Abdominal Hysterectomy at 79.**—Baldwin reports a successful case of removal of the uterus by laparotomy, for sarcoma in a patient aged 79, which he considers rare enough to be put on record.

122. **Pathology and Treatment of Pneumonia.**—Smith's article offers some new views in regard to the pathology of pneumonia, which he considers as a toxemia due to the introduction of the pneumococcus into the parenchyma of the lungs. Pneumonitis can be produced at will in any of a dozen or a hundred ways, but there is only one way in which we can get pneumonia. With this sharp distinction in mind between pneumonia and inflammation of the lungs, he outlines his mode of treatment, which he thinks is best effected by the introduction of germicides to the affected part by carrying them in the blood. Thus he speaks of calomel and quinin, which, however, do not act directly on the germs but by neutralizing the toxins and controlling the pyrexia. Chloroform is mentioned and the use of creosote, which enters the blood and reaches the lungs, as is shown by its effect on the breath, and Smith rather favors the use of it. The salicylates are also mentioned and favorable testimony quoted. With the two agents, creosotal and the salicylates, he believes the treatment of incipient pneumonia is best met. He is not especially impressed with the value of digitalis, and serum treatment has not yielded sufficient results.

123. **Abdominal Exploration.**—The thorough exploration of the abdomen in all cases of celiotomy is strongly urged by Kelly, who reports an unfortunate case which first led him to this method. He thinks that routine examination should be the rule. The mere inspection by the eye or the hand at the point of incision gives very little idea of all the possible conditions which may be met. There are four steps in this exploration: 1, simple inspection through the incision; 2, examination of such structures as can be brought into sight by the fingers; 3, insertion of the hand as far as the wrist, by which the colon and stomach and pylorus can be grasped and palpated; 4, by the insertion of the forearm in order to reach the liver, gall-bladder, kidneys and spleen. Asepsis must be secured by thoroughly sterilizing the arm or wearing a long-sleeved rubber glove. He details the method of examination. The important lesson he wishes to inculcate is that, provided an incision has been made in the abdominal parieties large enough to admit the entire hand and therefore the forearm, it is always an advantage to the patient to be able to assure him that as far as touch could ascertain there is no disease of any other abdominal organ. Under some circumstances, where there is reason to suspect disease of one of the other viscera not in the proximity of the field of operation, he would make a larger incision than necessary for the performance of the operation, for the very purpose of making such an exploration.

124. **Neurasthenia.**—The condition of neurasthenia and its diagnosis are described by Grey, who considers its prognosis excellent, provided its cause can be removed. The treatment consists of: 1, removal or amelioration of the cause; 2, rest; 3, suitable physical and mental tonics; 4, electricity. The too general popularization of Weir Mitchell's rest cure has been, he thinks, disastrous in many cases, as rest should be proportioned according to the individual needs. The tonics vary according to the condition. If anemia is present, iron should be used and nitrogenized food, especially beef, which can be given in the form of beef tea, if repulsive in the solid form. The best tonic, however, in most non-anemic cases is strychnin, beginning with 1/50 gr. a day and increasing to 1/30. With gouty history, colchicum should be used. Lithemic cases may be troublesome, but lithiated waters should, as a rule, be employed when indigestion and constipation can be excluded as a cause. Diversion and exercise short of fatigue is valuable, but may be overdone, and electricity is especially valuable. No tonic is so effective, he thinks, as the galvanic current properly applied. In conclusion, massage is mentioned as useful in a small minority, but many patients appear to be damaged by it.

125. **Bacteriology of Typhoid Fever.**—The subject discussed by Park in this paper, which was mentioned in our abstract of the proceedings of the New York Medical Association, recently, are: the elimination of the typhoid bacillus through the feces, urine, etc.; the methods of infection by food, drinks, and otherwise; immunization, and the Widal reaction, to which he attributes very great importance.

128. **Micrococcus Intertrigonis Rossbach.**—Meyer describes what he considers a new bacterium, causative of intertrigo. It forms spherical colonies in gelatin, light yellow in color, with fine serrated margin. The gelatin was liquefied, forming first a shallow depression, becoming gradually funnel-shaped, leaving in its concavity the fluid gelatin mixed with the colonies, which give off a rotten cheese odor. Stab cultures acted similarly, but sent out threads penetrating the medium in all directions. On agar the cultures grew only on the surface and accumulated, being slightly yellow in color. In serum the growth was rapid and formed a light yellow membrane. On potatoes a yellowish-brown spot appeared, from which the colonies spread, becoming a lighter color toward the margin. Milk was not coagulated nor acidified, and indol reaction was not observed. The germ is a micrococcus, 0.5 to 0.9 micromillimeters in diameter, without flagellæ or spores. It is aerobic and, in the hanging drop, does not reveal any independent motion. It stains well with watery aniline dyes, and decolorizes with Gram solution. On animals the disease was produced in forty-eight hours, and cultures reproduced the same germs, virulent down to the tenth generation. They are destroyed at 70 C. and below 10 C. A .5 per cent. formaldehyde solution is most effective in killing the germs. Meyer gives the above name in honor of his teacher, Rossbach.

129. **Shortening of Tibia and Femur in Tuberculous Disease of Hip-Joint.**—From an analysis of fifty cases of hip-joint disease, Hibbs finds a shortening of both the tibia and femur in 66 per cent., proportionate to the length of duration of the disease. He thinks that patients with tubercular hip-joint disease very rarely recover with fully developed limbs, and only in cases of short duration ending early in childhood. The average shortening of the tibia in his cases was .7 of an inch, while that of the femur was 1.47, a proportion of 2 to 1. It is obvious that the destruction of tissue plays no part in the shortening of the tibia, and he thinks that this is a less important cause than the indirect ones of non-use, etc. In all cases where the disease has existed any considerable length of time, also the foot of the affected limb is smaller.

130. **Confined Suppuration of Frontal Sinus.**—Kyle reports a case of suppuration of the frontal sinus, not involving the nose, which ruptured spontaneously from necrosis of the outer plate. The only surgical interference was the passing of a probe from the base of the cavity down into the nostril. The trouble disappeared with thorough cleansing with antiseptic solution, and left very little depression and a slight scar. He finds no case in the literature exactly like this.

131. **Tumor of the Nasopharynx.**—Ingals makes a supple-

mentary report on a case previously reported, of tumor of the nasopharynx, which was partially removed but continued to grow until about thirteen or fourteen years ago, when it began to disappear and, after occupying the nose for four years, is now not to be found. The deformity it produced still remains within the nose, and the right eye is blind, the sight having been lost during the growth of the tumor. The case is interesting as showing not only the tendency to recurrence but also to disappearance by atrophy in special instances.

132. **Potentialities of the Physician.**—Millican discusses the possibilities of a medical career, its advantages and disadvantages, the lack of very great financial remuneration and the unfortunate, to say the least, attitude of the public toward the doctor as to payment of bills, etc. On the other hand, the profession has its advantages in that it can yield a support and do good, and the physician can conscientiously feel himself a valuable member of the community if he does his duty. In the second part of his article, he speaks of the function of the physician as a citizen and the importance of the profession to the community. He alludes especially to the influence of the physician in the way of suggestion in controlling public opinion and public measures, his function as a sanitarian and keeper of the public health, and concludes with a brief reference to the qualities of breadth of mind, preparedness, earnestness, sincerity, etc., which are requisites.

133. **Rhinedema.**—Curtis remarks, in beginning his article, that he finds no mention of nasal edema or dropsy in any of the works on the nose and throat, but he finds it in practice and it seems to him to deserve a name as a special form of nasal affection. He thinks many cases of winter hay-fever are of this nature, and describes three types, the anterior, posterior and general erectile irritation. The anterior occurs sometimes, independently of the posterior, and is characterized by intermittent excitation of the erectile tissues of both the inferior and middle turbinates anteriorly, with often a thickening of the tissues of the tubercle of the septum. The posterior condition may also be independent, affecting only the erectile tissues of the posterior turbinate, or, again, a general hyperplasia may be present. Animal emanations may produce this condition, and it may occur at all seasons of the year, in every station of life, being resistant to all known agents, and sometimes making the nostrils impervious for months. The distress is much greater than in ordinary hay-fever. It occurs usually in neurotic women and men of sedentary habits, between the ages of 30 and 50, sometimes earlier. He advises exercise and the use of the rectal sitz douche, for its treatment, washing out the entire colon morning and night with water containing sea salt and sodium bicarbonate. This is one of the best methods of relieving venous stasis in any part of the body, and it has no equal as an adjunct to exercise. These measures, with a little strychnin and digitalis, will soon put the mucosa in a condition to resist monochloracetic acid without danger of a general slough taking place. Early cauterization is dangerous. While not considering it a special disease, he thinks the term here offered is valuable as illustrating the condition.

136. **Malarial Infection as a Factor in Eye Disease.**—Vaughan reports a case in his practice in which the right eye revealed a marked ptosis, conjunctival congestion, pupil dilated, cornea cloudy, vitreous opaque, and slight increase of intraocular tension, the symptoms introducing it being supraorbital neuralgia; the condition was relieved by iron and quinin. He refers also to other symptoms, such as amblyopia, etc., occurring in connection with malaria.

FOREIGN.

British Medical Journal, December 2.

Geography and Climate of South Africa. ALFRED HILLIER.—South Africa, excepting the coast terraces, is a high inland plateau, ranging from 1000 to 2500 feet in altitude. In this region the summers are hot and the nights usually cool. The rain-fall is largely limited to two or three months of the year. Nevertheless, these regions are capable of supporting a considerable population and being utilized to a large extent for agriculture, as shown by the settlements already made. It would appear that there are many regions there of special value as resorts for invalids.

Lancet, December 2.

Contribution to Study of Epidemic Diarrhea. ARTHUR NEWSHOLME.—Newsholme discusses the statistics of epidemic diarrhêa in a large number of British towns, showing that its greatest mortality is in the hot or summer months, that its causation is not absolutely determined and, if it is a germ disease, the species is as yet hypothetical. It is possible it may be the bacillus enteritidis sporogenes of Klein, but he hopes not, as this possesses a very persistent vitality. We know, however, that it is chiefly a disease of urban life, that it prevails in the lower classes, that it is most frequent in badly sewered and scavengered towns, that the fundamental condition favoring it is an unclean soil. These towns with a high temperature and deficient rain-fall, especially in the third quarter of the year, suffer severely from diarrhea, and this is so much the rule that they can be classified meteorologically. It is also shown that populations living on impervious and rock soils suffer less, possibly because the polluting substance does not cling to or sink into such soil. It is most prevalent where systems of sewage and removal of house refuse are least satisfactory. It is, like enteric fever, a filth disease.

Practitioner (London), December.

Mongolian Imbecility in Infants. G. A. SUTHERLAND.—The type of imbecility called Mongolian, by Langdon Down, is characterized by slow development, a flat face, broad nose, narrow and slightly oblique eyes, and a common feature is the open mouth and protrusion of the tongue. The abdomen is large and distended, the pelvis small, the long bones usually shorter and smaller than normally, the hands short and square, the little fingers and thumbs often small in proportion. An outward bowing of the little finger, due to shortness of the second and lateral displacement of the terminal phalanx, has been pointed out by Telford Smith, as also characteristic. The joints are loose and easily dislocated, and heart disease is common. These children develop slowly. Their condition is often not recognized until their inability to walk or speak at the usual age becomes apparent. Their prospect of life is not good; they succumb readily to the various infantile diseases. In the cranial structure one point is prominent, the skull has a diminished anteroposterior basal diameter, suggesting, as seems to be the fact, a lack of development in the basic structures of the brain. Sutherland has been struck with the prevalence of hereditary syphilis in these cases, it being definitely present in eleven of his twenty-five cases, and suspected in three others. Treatment, except in a general way and symptomatic, is not successful. Thyroids do not seem to be effective in this form.

Temporo-Maxillary Ankylosis and Its Relief by Excision of the Neck and Condyle of the Lower Jaw. DAVID M. GREIG.—The author calls attention to the slight notice received by the condition of temporo-maxillary ankylosis in current text-books on surgery, and describes his method of operating in these cases, by excision of the neck and condyle of the jaw. His incision commences above on a level with the upper margin of the orbit, just over the temporal artery, and is carried downward and backward to the zygoma, a finger's breadth in front of the meatus, then down to the level of the anterior attachment of the lobule. It includes the skin and fascia and this flap is reflected downward and forward. The auricular arteries of the superficial temporal are divided, while the temporal artery and upper branch of the temporo-facial division of the seventh nerve are pushed forward with the flap. Sometimes the superficial temporal artery may have to be tied. The masseteric fascia is then freely divided along the margin of the zygoma, and with the parotid is pulled downward and forward. The knife is entered below the zygoma, carried down to the condyle, and a vertical incision made between the fibers of the masseter muscle as low as the lowest level of the sigmoid notch, and the muscular fibers separated by a periosteum elevator. With this as a guide, the chisel is now conveyed down to the bone and lateralized at the lower angle of the incision, the anterior portion being cut at the lowest level of the sigmoid notch. It is important that it be chiseled at its lowest limit first, because it is below the level of the internal maxillary artery, but chiefly because the bone is in a way pyramidal and it is easier to cut through the base after the apex has lost its support. The chisel is then applied at the site of the joint and

the base of the pyramid divided. The loosened portion is then driven forward into the wound with forceps, and the internal pterygoid muscle cut loose. If now the ankylosis be unilateral, it will be found quite easy to separate the dental arches, but if this can not be done, the chisel is slipped forward across the sigmoid notch and the coronoid process is divided. There is no bleeding. The wound is stitched up and no drainage is required. He employs a chisel to divide the bone, because it is more easily managed and more accurately regulated.

Relationship of Membranous Inflammation of the Nose to Diphtheria. EUGENE S. YONGE.—The conclusions of Yonge's article on membranous rhinitis are: 1. Membranous rhinitis—this term being understood not to include primary nasal diphtheria—is commoner than is usually supposed, cases being overlooked owing to the mild constitutional symptoms, or regarded as catarrhal rhinitis, etc. 2. The disease may occur in one of two forms, which concur in the local appearances, the prolonged course and the mildness or absence of constitutional symptoms, but differ in the presence or absence of the Klebs-Löffler bacillus and in their power of infection. 3. The form associated with the Klebs-Löffler bacillus is considerably more common than the simple form, and is a mild local manifestation of diphtheria, differing sharply, however, from the usual form of primary nasal diphtheria. 4. Inasmuch as the two forms of membranous rhinitis are clinically indistinguishable, a bacteriologic examination should be practiced in every case, and isolation of the patient carried out, at least until the result of the examination is made known.

Annales de Dermatologie et de Sphilographie (Paris), October.

Necrotic Acne. R. SABOURAUD.—"The longer the bacteriologist studies the skin, the more he is impressed with its impermeability for microbes. Wounds, traumatisms, simple erosions, infect the subcutaneous regions a thousand fold more easily than the skin itself. The derma defends itself better than the subderma, but infection once established in the derma or epidermis, it is almost indestructible. All intra and epidermic affections are recurrent. Another fact to be borne in mind is that treatment should not be addressed to the lesion but to the region." Sabouraud establishes that necrotic acne is a perifollicalitis extending outward and downward, terminating by the necrosis of all the tissues invaded and by a varioloid cicatrix. It starts in a follicle previously infected with the microbacillus of seborrhea oleosa; this seborrhea is its constant and indispensable substratum, and no treatment is permanently effective unless addressed chiefly to the seborrhea. It is produced by a staphylococcus aureus, found pure, constant and innumerable in the lesion from first to last. It has been found impossible to differentiate this staphylococcus from the ordinary staphylococcus aureus. This fact, considered in connection with observation of the various clinical varieties of necrotic acne, includes it in a group with Boekhart's peripilar impetigo, the pilar impetigo of the adult and true necrotic acne: first, free suppuration—Boekhart's impetigo—continuing with slight necrosis to a cicatricial termination—pilar impetigo of the adult—and lastly necrosis extending to the deep follicular cicatrix—necrotic acne.

Archives Orientales de Medicine et de Chirurgie (Paris), November.

Sclerogenic Method in Tuberculosis of Larynx. A. CASTEX.—Injections of a 5 per cent. aqueous solution of chlorid of zinc according to Lannelongue's method, directly into the larynx, have been practiced by Castex in eight cases. Two remained stationary; two are practically cured and the rest have since succumbed to extension of the pulmonary lesions without aggravation of the laryngeal lesion. There is pain at first *in situ*, then in the ear of the corresponding side, and tumefaction follows at the point of the injections. Five or six days afterward a gray eschar forms and falls, and induration follows with ankylosis of the arytenoids and immobilization of the vocal cords. This treatment is harmless, according to the writer's experience, and may be successful. It seems to be indicated when the lungs are in fairly good condition—first period— and the laryngeal lesion consists of a circumscribed lesion. On an average he injects 15 drops in the arytenoids or cords, according to the lesions, repeating the injection in a fortnight. One of his cured patients was injected three times.

Bulletin de l'Academie de Medecine (Paris), November 21.

Prophylaxis of Syphilis by Medical Treatment. A. FOURNIER.—Elaborating more fully his scheme of numerous centers of treatment for out-patients scattered through the city (see JOURNAL, p. 1545), Fournier advocates individual medical examination, the patient alone with the physician and his students, with a number of small dressing-rooms to which he could retire, and a system of individual cards, on which are briefly noted the anamnesis, symptoms, lesions, treatment, etc., which would save much time. He also would have a few brief instructions printed on the back of the prescriptions or in a circular given the patients, recapitulating the advice given by the physician. He urges the necessity of a special force of "venereologs" for this service, a titular hospital physician in charge, with consulting assistant chosen by competition for six years from the *chefs de clinique*, who would also be appointed by competition for three years. The entire force would thus be experts with years of training, and with no other official duties. All in this new organization would converge to the one point, the prophylaxis of syphilis, and prophylaxis by medical means, working in concert with prophylaxis by all other possible means, moral and otherwise.

Echo Medicale du Nord (Lille), November 19.

Postpartum Fever and Constipation. OUI, CARRIÈRE and INGELRANS.—The first writer describes four observations of fever appearing from the second to the fifteenth day consecutive to delivery, which were treated for the coincident constipation with prompt effect in banishing the fever. Others have also called attention to constipation as the cause of postpartum fever in many cases, but Moty attributes the fever to intestinal paresis, and Ingelrans quotes Delorme's series of 160 cases of men constipated for twelve to fifteen days after abdominal or genital operations, without a trace of hyperthermia, subnormal in many, and ascribes postpartum fever to the unstable nervous conditions of women after childbirth, which multiplies the effect of the slightest pathogenic cause; even an emotion may be sufficient to induce fever at such times. He doubts whether constipation can be incriminated, and observes that there can be no absorption from hard fecal matters. Carrière reports that when the anus is obliterated in rabbits, the fecal matters increase materially in toxicity, which is also demonstrated in man by the frequent presence of indican in the urine of constipated persons. He also induced fever in rabbits with obliterated anus, by injecting cultures of toxins of the coli bacillus into the intestines, while similar injections in the control animals failed to induce any fever. His experience suggests the advisability of ensuring intestinal antisepsis in women as a precaution before childbirth.

Progres Medical (Paris), November 18.

Indications for Opening Wide the Cavities of the Middle Ear in Chronic Suppurations. BARATOUX.—Persistent, distinct subjective symptoms indicate opening the cavities of the middle ear wide, also a fistula, facial paralysis, dropping of the upper wall of the canal, fungous growths in the dura mater and local tuberculosis. In all other cases, cholesteatomata, vegetations, polypi and perforations resisting the usual measures longer than several months, the ossicles should first be removed, with excision of the external wall of the attic if necessary, and scraping the tympanum. If there is recurrence of the tumor or persistence of the discharge, the lesion of the bone can not be adequately reached by the canal, and all the cavities of the middle ear must be opened up to reach the starting-point of the infection.

Revista de Medicina y Cirurgia (Havana), November 10.

Will it Be Possible to Suppress Yellow Fever in Cuba? D. T. LAINE.—"The occurrence of yellow fever at Santiago is discouraging after all the radical measures to render the city sanitary, and suggests that possibly such efforts may prove fruitless and that the subsidence of epidemics may merely be due to isolation preventing its spread, and to a truce in the virulence of the germ rather than to its extermination. The epidemic at Santiago rapidly died out, but the cleaning of the city had little to do with it, but rather the lack of non-immunes for fuel. If sporadic cases continue appearing, the hopes based on the present favorable statistics would crumble, and a single intensely virulent case might nullify all efforts. The apparent

facility with which we now arrest epidemics and the hope of the final extinction of yellow fever will diminish in proportion to the increase in the number of non-immunes in the population and the approach of the time when the government will pass into the hands of the natives who are not so directly interested in the matter as the Americans. Before the present government took control of the island there had never been the slightest attempts made in the hospitals, civilian or military, to isolate cases of yellow fever. Separate pavilions had been provided in some cases, but friends and relatives were allowed free access and the hospitals thus became actual centers of contagion."

Revue Hebd. de Laryngologie, etc. (Bordeaux), October 28.

Early Manifestations of Tuberculosis of Larynx. MONSARRAT.—Before this affection has reached an unmistakable stage, it can be detected by the characteristic cough, voice or pains. The larynx should be suspected when with auscultation almost completely negative there is a persistent cough, sometimes violent, spasmodic like whooping cough, or small, dry, staccato, with or without expectoration or vomiting. The voice may be affected, with few if any changes discoverable in the larynx, no ulcerations, the cords scarcely congested, no cough, nothing to explain the great change in the speaking voice. It may even resemble the eunuch voice. Hoarseness is noted in a fifth of the cases of tuberculosis of the larynx. A nodule, a congestion, a monochorditis may be the first intimation of it. Congestion of the vocal cords may coincide with dysphonia or cough, but it disappears with repose unless due to chronic rhinopharyngitis or tuberculosis. In the latter case it persists and involves the surrounding tissues with exacerbations, the grave form of recurring tuberculous laryngitis. Acute monochorditis should always suggest tuberculosis. The tuberculous nodule on a vocal cord is less conical and rounder than "singer's nodule." It causes little inconvenience, but is replaced by the tuberculous ulceration. More usual manifestations are congestion of the entire larynx, edema of the endolaryngeal mucosa and the sensation of a lump in the throat, which is sometimes the first and, for a long time, the only symptom in nervous subjects, especially females, before any lesions can be discovered. Disphagia may also occur as the only symptom.

Treatment of Malignant Tumors of Nasal Fossae. E. J. MOURE.—Notwithstanding the size of some malignant tumors of the nasal fossæ and the hemorrhages which they are liable to induce, Moure strongly advocates operating on all, even those of the upper, inner fossæ, by the natural routes and not from the exterior. The operation is simple, easy of execution, free from danger, and it can be repeated as often as may be necessary without disturbing the general health of the subject. Much better than the external route, it allows the complete removal of the degenerated portion with oversight and suppression of the point of insertion, or at least curetting or cauterization. It protects against hemorrhages and allows careful watch over recurrences and prompt intervention if they occur. Enlarging the cavities of the nose much facilitates operative maneuvers and exploration of the interior of the nose.

Semaine Medicale (Paris), November 29.

Etiology of Tertiarism. A. FOURNIER.—Fournier considers and proves inadequate treatment to be the chief factor in the etiology of tertiarism. "One must do as I have done," he says, "that is, ransack the observations of several thousand cases of tertiary syphilis one by one, to obtain any conception of the indifference of subjects to their disease, their negligence, their carelessness in respect to it. Who would believe that out of 2400 syphilities I found 500, that is, more than a fifth, who considered themselves emancipated from the disease by a course of treatment less than three months in length, two months, six weeks, one month? Who would believe that out of this 500 there are 121 who, by their own confession, received treatment less than four weeks, three weeks, ten days, seven, five or three days?" He also asserts that tertiary syphilis most frequently follows mild or moderate secondary syphilis. Out of 2188 cases of tertiary syphilis, 1990 had been preceded by a slight, very slight or absolutely mute secondary period. On the other hand, the proportion of tertiary accidents with adequate mercurial treatment is only 3 per cent. Among the lesser causes are nervous heredity, age, alcoholism and malarial infection and all depressing influences, speculation and gambling, dissipation, but insufficient treatment is far ahead of all the rest.

Centralblatt f. Chirurgie (Leipsic), October 28 and November 25.

Osteoplastic Evacuation of Mastoid Process. KUESTER.—Evacuation of a cholesteatoma or other serious lesion of the mastoid process usually leaves a disfiguring depression and the scar may be months in healing. All this is avoided by Kuester's method, which he has applied on nine patients with most gratifying results. The ear is pulled forward, and an incision carried along its base from above downward and around the base of the mastoid process and up, parallel to the first incision along the base of the ear, to a point opposite the starting-point of the incision. The periosteum is then detached along the incision and a groove cut in the bone. The entire surface of the mastoid process is then pried up, forming a thin bone plate still intimately connected with the soft parts over it. This tongue-shaped skin-periosteum-bone flap is then turned back and the operation continued as indicated. The cavity left is loosely packed with gauze, a corner cut out of the flap to allow the tip of the gauze to protrude; the flap then replaced and sutured. The tampon is replaced by a smaller one, in four to five days. The skin wound heals by first intention and the small fistula left soon heals. The cavity fills up effectively with granulations in a few weeks, and except for the slight linear scar, no trace remains of the intervention. This method is especially advantageous if the sinus or dura mater has been injured, on account of the firm antiseptic tamponning ensured by the replaced bone flap.

Radical Operation for Inguinal Hernia in Infants. A. FRAENKEL.—Among the arguments adduced by Fraenkel, in favor of early intervention, are the unavoidable irritation from soiling of bandages and truss by urine and fecal matters, and the lack of free natural play and exercise in children compelled to wear a truss, with consequent defective development of body and psyche. He has done the Bassini on sixteen nurslings out of a total of sixty-eight children; four were incarcerated. In two the ectopic appendix was found in the hernia and removed with it, an important prophylactic measure. The infants all bore the operation exceptionally well. It is generally conceded now that although a congenital hernia may spontaneously regress, yet the tendency to hernia persists and is more than liable to cause trouble later, and on account of the interference with the general health, the hernia should be operated on as early as possible, the same as hare-lip is now considered to demand prompt intervention. His youngest subject was 2 months old. The only precautions necessary are to partially cure intestional catarrh if present, before operating. It is not necessary to wait for entire recovery as the operation always completed the cure in Fraenkel's experience. In nearly every case the wound healed under one immobilizing bandage, on an average in eight to nine days; penis and anus walled off with waterproof tissue.

Deutsche Medicinische Wochenschrift (Leipsic), November 30.

Experimental Study of Thyroid Gland. J. KATZENSTEIN.—The results of five years of research are embodied in this article. They show that the thyroid gland degenerates after the innervation has been severed, and that the animal may survive this degeneration and consequent extinction of the function of the gland without injury. In some of the tests the gland was removed on one side, and on the other was detached from its surroundings, but still left adherent and wrapped in tinfoil or fish bladder. While still connected by nerves and vessels, it lay in the bladder as in a bag, sewed to the skin nearly all around. In other tests the tin-foil was covered with gauze. The gland was removed later, the vessels severed at least 1.5 cm. above and below. Four out of seven permanently survived the removal of the entire gland. After removal of the thyroid gland the secretory and vasomotor nerves as well as the sensory, undergo centripetal degeneration. Neumann's osmium method showed, in teased preparations of the degenerating nerve-fibers, that the portions near Ranvier's nodes remained unstained, the very points where the stain is the strongest in normal preparations, probably evidence that the degeneration of normal nerve-fibers commences at Ranvier's nodes. The length of a nerve cell, that is, the distance from one Ranvier's node to the next, has hitherto been estimated at 1 to 1.5 mm., but in these dog nerves the distance was 0.059 or 0.5520. Ac-

cumulations of ganglion cells were noted at various points in the vagus, and once in the recurrens. When first the innervating nerves of the thyroid are cut, an abnormal and enormous secretion of colloid occurs in the follicles of the gland, too much to be carried away in the circulation. This accumulation irritates the epithelial cells of the follicles, to which they respond by the production of more colloid until the pressure of this accumulation squeezes the vitality out of the epithelial cells and they die, when all function ceases in the gland, but without injury to the animal, who lives on undisturbed with the gland as a dead body in his organism. No evidences of any substituting organ could be discovered. Investigation of the hypophysis from large numbers of dogs and monkeys, after complete extirpation of the thyroid, failed to disclose any change in the substance of the hypophysis, and Katzenstein never found any hypertrophy of the pituitary body in these circumstances. An increased secretion was occasionally noted in the glandular portion, but there seems to be no analogy between this secretion and thyroid colloid.

Virchow's Archiv (Berlin), clv 1.

Elimination of Elements of Urine in Course of Fever. W. MORACZEWSKI.—Analysis of the metabolism in cases of fever—typhus, croup, pneumonia, malaria, phthisis—showed that the first rise in temperature was followed by increased elimination of Cl., increased or decreased amount of N., decrease of P. With continuous, unchanging fever the elimination of Cl. and P. gradually diminish; the N. remains stationary or diminishes. In the third stage of continuous fever the Cl. falls below normal; N. and P. increase to above normal, that is, typical fever urine. A drop in the temperature may even intensify the characteristic fever excretion. A rise increases the amount of Cl. and diminishes the P. With permanent return of temperature to normal the retention of Cl. gradually diminishes and P. and N. gradually return to normal.

Wiener Klinische Rundschau, November 9 to 23.

Stab Wound of the Heart. R. v. BARACZ.—The instructive points in this observation are that a large artery—in this case probably the intercostal—may be injured, while no spurting of blood from it can be detected on the closest inspection; also that two weeks afterward, notwithstanding the thrombus and partial absorption of the extravasation, a profuse afterhemorrhage may occur in consequence of increased heart action, which imposes the necessity of absolute rest in bed. Another point is that symptoms of injury of the pericardium may not become manifest until several days after the wound. The blood in the pleural cavity probably presses against and closes the hole in the pericardium at first. As this subsides the blood and air driven back and forth through the hole produced, in this case, commencing three days after the injury and vanishing in twenty-four hours, the rare "water wheel" sound described by Morel-Lavallee as pathognomonic of a wound in the pericardium, but only observed in three cases on record.

Operative Treatment of Tuberculous Pneumothorax. DRASCHE.—The writer states that he began collecting material for this study forty years ago, and has continued it ever since, in the Allgemeines Krankenhaus at Vienna. He says: "If surgeons will turn their attention more to tuberculous pneumothorax henceforth and seek to perfect the technic, and internes study it more closely and collect experiences, my aim will have been accomplished. Even if complete recovery does not follow, the great relief and alleviation of the patients should encourage the practice of intervention in such cases, and the mere fact of the operation will cure many in the early stages of tuberculosis."

Russky Archiv Patologii, Klin. Med., e Bact. vii, 5 and 6, viii, 1 and 2.

Tuberculosis of Hernial Sac. M. PRESNETZKI.—Reviewing the twenty-six cases in literature, and a typical personal one, the author is convinced that the sac may be the primary localization of the tuberculosis, or merely secondary to general peritonitis. Both possibilities can be accepted. The tuberculous hernial sac almost always contains fluid, and the walls thicken, both very important points for the diagnosis, and imposing immediate operation.

Changes in Central Nervous System with Lead Poisoning. T. RYBAKOW.—In experimental research with rabbits and guinea-pigs injected subcutaneously with lead acetate or fed with lead carbonate, mixed with the food, for five to sixty days, the paralysis appeared two to fifteen days before the death of the animal, first the hind feet, the extensors being most affected. The most marked changes were noted in the spinal cord, in the lumbar region, especially in the cells of the anterior horns. Rybakow considers this the primary effect of the lead poisoning, these cells reacting most readily to the influence of the poison.

Prophylaxis of Diphtheria. G. GABRITSCHEWSKI.—The writer advocates bacteriologic investigation of all persons in contact with a diphtheria patient as well as of the patient himself, and if bacteria are found, the subjects should be isolated and disinfected as if they were already sick. No diphtheria patient should be dismissed until the bacteria have entirely vanished. In establishments, boarding schools and families where there are many children, the mouth, throat and nose should be thoroughly examined once a year at least, preferably in the early fall. Disinfection should follow the complete recovery of a diphtheria patient. A sanitary bacteriologic service should be organized in every country district.

Pathologic Anatomy and Bacteriology of "Dog Plague." J. N. PETKO-PAVLOVSKI.—Bacilli were found by the author, in dogs affected with this disease, in the lungs, liver, spleen, pustules on the skin, submaxillary and mesenteric glands, brain and spinal cord, which resembled the bacillus of the bubonic plague. Cultures of these bacteria, introduced under the skin or into the abdominal cavity of young dogs, induced the symptoms of the plague with suppuration at the point of injection. The blood serum of dogs recovered from the disease, agglutinated cultures of the same bacilli. Cultures introduced into the abdominal cavity or under the skin of gray or white mice or guinea-pigs, the animals have septicemia, and if they recover, their serum has also an agglutinating property. Other animals infected react with catarrhal inflammatory foci in the lungs, and occasionally abscesses and nodules of a granulomatous character. The lungs and liver are first affected and later the spleen, lymph-glands, peritoneum, kidneys and central nervous system. On the whole, the "dog plague" bears a close resemblance to bubonic plague in man.

Behavior and Practical Importance of Benzoic and Calcium Peroxid in Intestines of Man and Dog. N. NENCKI.—It has long been established that fermentative processes in the intestinal tract occur without oxygen, the microbes being facultative or strict anaerobics. Nencki has been experimenting to find what influence the presence of oxygen would have on these processes, first with benzoic peroxid and then, more successfully, with calcium peroxid. Dogs took large doses of the latter without inconvenience—6.0 to 10.0. The gastric juice liberates free oxygen and the pancreatic juice and bile are even more energetic in this respect. A series of tests with dogs demonstrated that the fermentations in the intestinal tract, after ingestion of large amounts of calcium peroxid, were partially or entirely arrested, evidenced by the diminished sulphates in the urine and the entire disappearance of indican. These results encourage the use of calcium peroxid in abnormal fermentation processes, and Roczkowski has already applied it with success in a number of affections of the alimentary canal. It seems to be particularly effective in the so-called acid dyspepsia of children.

Gonorrheal Disease of Nervous System. M. MOLTSCHANOW.—Long research with the gonococcus toxin on rabbits, guinea-pigs and white mice, leads Moltschanow to affirm that this toxin causes certain characteristic changes in the nervous system, particularly evident in the cells of the anterior horns of the spinal cord in cases of acute intoxication, as partial and general chromatolysis, changes in the shape and position of the nucleus, vacuolization, atrophy of the cells and substitution by neuroglia. Similar changes also appear, but much later, in the cells of the spinal ganglia. The cells of the cortex, large ganglia and cranial nerves are much less affected. Vasomotor disturbances are also observed as hyperemia of the meninges and gray matter of the spinal cord, with occasionally hemorrhages in the vicinity of the central canal. The intensity of these changes is always proportionate to the amount of the toxin introduced. By the third or fourth week after infection symptoms of degenerative neuritis appear, and by the sec-

ond month assume the predominance. By this time also, lesions of degeneration develop in the posterior roots and posterior columns of the spinal cord. Experiments with mixed infection—staphylo and streptococcus, colon bacillus—showed that the above changes occurred much more rapidly with combined intoxication.

Biology of Bacterium of Acute Rheumatism. J. SSAWTSCHENKO.—Achalme's bacillus was cultivated by the writer of this communication, from various specimens of soil from Kasan and vicinity. He considers it the agent of acute rheumatism. The conditions for obtaining pure cultures from soil are first, heating to 60 or 80 C., to destroy foreign vegetation and then developing the cultures as strict anaerobics. As other anaerobic bacilli develop with them, they may be isolated by inoculating susceptible animals—pigeons. Assuming this usually harmless saprophyte to be the cause of acute rheumatism, it must attain the necessary virulence by its passage through the alimentary canal which affords all the conditions required to enhance its virulence, and autoinfection follows thence.

Societies.

COMING MEETINGS.

Western Surgical and Gynecological Association, Des Moines, Iowa, December 27-28.

Butler County Medical Society.—At the recent session of this Society the following officers were elected: president, G. A. Hermann; vice-president, J. H. Roll; secretary, A. Smedley; treasurer, F. M. Fitton.

Practitioners' Society of Dallas, Texas.—The above named Society was organized and the following officers elected, December 1: president, Lawrence Ashton; vice-president, J. B. Titterington; secretary, C. L. Johnson. The next meeting will be held December 18.

Marion County Medical Society.—This Society held its annual meeting December 5, at Indianapolis, Ind. Dr. C. B. Burr, Flint, Mich., presented a paper on "Care of Recent Cases of Insanity," which was discussed by specialists from different parts of the state.

Grand River Medical Society.—This Society met at Laclede, Mo., December 7 and 8. The newly-elected officers are: president, G. N. Lantz, Brookfield; vice-presidents, G. W. Goins of Breckenridge and J. W. Lane of Linneus; treasurer, Dr. Burke, Laclede; secretary, J. A. Craig, Shelby.

Rock County Medical Society.—At Janesville, Wis., December 1, members of this Society held a business session and elected the following officers: president, W. H. Judd; vice-president, S. B. Buckmaster; secretary, George W. Fifield; treasurer, R. W. Edden.

Southern California Medical Society.—The twenty-fourth semi-annual meeting of this Society was held at Pasadena, December 7 and 8. One morning was devoted to nervous and mental diseases, an afternoon to surgery, and an evening to ophthalmology, otology, etc. The physicians of Pasadena tendered a trip up Mt. Lowe, to the visitors.

Minnesota Valley Medical Society.—At the meeting held in Mankato, December 5, especial attention was given to the question of quackery as affecting the medical profession. The following officers were elected: president, J. H. Adair, Owatonna; first vice-president, D. J. S. Holbrook, Mankato; second vice-president, M. Sullivan, Luverne; third vice-president, Marie Merrill, Mankato; secretary, E. D. Steel, Mankato; treasurer, G. F. Merritt, St. Peter.

Orleans Parish Medical Society.—At the meeting December 9, held in New Orleans, La., officers were elected for 1900 as follows: president, T. S. Dabney; vice-presidents, M. J. Magruder, Hermann B. Gessner, and E. J. Craner; recording secretary, E. H. Walet; treasurer, M. H. McGuire; corresponding secretary and librarian, S. P. Delaup. Drs. John Callan, Isadore Dyer and E. Denegre Martin were elected as the three directors who, with the officers above mentioned, make up the board provided for by the recently passed act of incorporation.

Salt Lake County Medical Society.—At the meeting of this Society, in Salt Lake City, Utah, December 11, the evening's discussion was devoted to a resolution offered by Dr. P. E. Jones, endorsing the action of the Wayne County (Mich.) Medical Society in its efforts to secure reciprocity between states having similar medical laws. (See JOURNAL, November 11, p. 1226.) The purpose of the reciprocity idea is to have a uniform law in all the states regulating medical examinations, and to this end it is intended to recognize without question the legitimate certificates of qualified practitioners. The resolution was adopted by a vote of 19 to 1. Officers were elected as follows: president, E. F. Root; vice-president, Ira A. E. Lyons; secretary, W. S. Ellerbeck; treasurer, A. A. Kerr.

Calhoun County Medical Association.—The annual session of this Association was held in Battle Creek, Mich., early in the month. The following officers were elected: president, G. D. Bangham, Homer; first vice-president, L. M. Gillette, Battle Creek; second vice-president, L. S. Joy, Marshall; secretary, W. H. Haughey, Battle Creek; treasurer, Dr. Olin, Battle Creek. Dr. George C. Hafford, of Albion, offered a resolution censuring the Board of Regents of the University of Michigan, for compelling the staff of the University to perform, free of charge, operations on patients whose cases do not help educate the students and who are able to pay for the attendance. This was unanimously carried. The next meeting will be held at Albion, March 6, 1900.

Southern Medical College Association.—This Association met in annual session in New Orleans, La., December 5. Eight of the eleven colleges constituting the membership were represented. Dr. G. A. Ketchum of the Medical College of Alabama presided. Tulane University was represented by Dr. E. S. Lewis; Virginia Medical College by Dr. Christopher Tompkins; Medical Department of the University of the South by Dr. J. S. Cain; Birmingham Medical College by Dr. J. D. S. Davis; Medical Department of the University of Tennessee, by Dr. W. D. Haggard, Jr.; Memphis Hospital Medical College by Dr. W. B. Rogers; Medical Department of Vanderbilt University, by Dr. G. C. Savage, secretary of the Association. The colleges not represented were the Medical Department of the University of Nashville, Tennessee Medical College, Knoxville, and the Medical Department of Fort Worth University. The meeting was harmonious. The delegates all reported that their respective faculties were well pleased with the advance made from the three to the four year course. The constitution and by-laws had been so perfected from time to time as to need but little amendment. However, a very important amendment to the constitution was adopted to the effect that the colleges, members of this Association, shall hereafter adhere strictly to the published rates of tuition. Each college, however, is allowed to fix its own charges for tuition. It is to be hoped that the example thus set by the colleges constituting the Southern Medical College Association will be followed by colleges throughout the country, and that the very degrading practice of cutting rates will cease. The officers elected for the succeeding year are Dr. G. A. Ketchum, president; Dr. Christopher Tompkins, vice-president; Dr. G. C. Savage, secretary. The executive committee is composed of the following members: Dr. G. A. Ketchum, Dr. E. S. Lewis and Dr. Christopher Tompkins. The next annual meeting will be held in connection with the meeting of the Southern Surgical and Gynecological Association, in Atlanta, Ga., in November, 1900.

New Jersey Sanitary Association.

Twenty-fifth Annual Meeting, held at Atlantic City, Dec. 8, 1899.

HOW SHALL BOARDS OF HEALTH PREVENT THE SPREAD OF COMMUNICABLE DISEASES?

DR. DANIEL STROCK, Camden, N. J., chose this subject for his annual address, as president. There is a great want of unanimity among the local boards on this matter. They act under general not specific laws. They can pass an ordinance for this purpose, but rarely do we find them in accord as to the proper action. One city has its medical inspectors report all cases of contagious disease to the superintendent of education, so that the children of such families may be kept from the

schools. Another has house-to-house inspection, and infected houses are fumigated, etc. Another quarantines such houses, isolates them, affixes placards, and finally disinfects. In one city such a case is at once removed to a hospital. Again, we find the physicians required to report all cases of suspected sore throats, that they may be examined bacteriologically, and thus the spread of disease prevented, while one city has a smallpox hospital, but none for other communicable diseases. Four cities have isolation hospitals where cases can not be treated at home. One strictly quarantines, with an officer in front of the house to prevent egress or ingress. The experience of this city has not been reported. In some districts no records are kept because all diseases are regarded as a visitation from Providence and no interference should be tolerated as flying in the face of the Almighty. Probably the majority have a sanitary code, but it is not always enforced.

Often the members of boards are conscientious men, but they are deterred from enforcing the law by public opinion. Perhaps this is the chief reason why in many instances sanitary laws are not enforced. If such diseases are ever to be controlled, it must be by uniform methods in dealing with the problem involved. Public sentiment must be aroused, and all will then uncomplainingly submit to laws which at times are apparently unfeelingly ordered. It should be brought to the notice of the public that in one epidemic the work goes on insidiously till hundreds are destroyed. Mortality statistics are impressive and greatly aid in the education of the people. Hence such should be put before them. Such diseases as cholera, plague, yellow fever, and smallpox are feared and the people gladly submit to every inconvenience to prevent their admission. Two diseases are always with us, scarlet fever and diphtheria, which cause thousands of deaths. The people become indifferent to them, and this point can not be made too emphatic when dealing with the public.

We must carefully observe the sanitary condition of a district, inspect the school houses, examine each child and exclude all who come from a house where such sickness is present. Public funerals must be prevented. Educate the people, show them why we do these things. In every case of suspicious throat, examine specimens of the sputa and then determine as to quarantine, etc. Every district should have its detention hospital for communicable diseases and here the family physician should be permitted to attend his own cases, as many consider their own doctor the best. Quarantine destroys business, as in the case of a shop keeper; it prevents the father from working, thus cutting off the supply of the food earner. Hence all will readily see the advantage of having such cases in a hospital where they are sure to be well cared for without this additional hardship to the afflicted family. Then few would object to what they see is done for their own welfare. The epidemics of smallpox and yellow fever have in the past left their marks so indelibly fixed on the people that in remembering the past they consider the traditional horrors whenever they are brought into view. This insures alarm lest they again occur. If the people would accept the teaching as to the other diseases, and learn that like means will curtail all communicable diseases, they would as readily submit to the rigid quarantine of the ports against all as they now do for yellow fever, plague, etc. This educational system would on the whole work less unpleasantly and prove more successful at an early day. The people would then aid rather than oppose the health boards.

DUST, SMOKE AND GAS IN CITIES.

PROF. W. L. SEDGWICK, Boston, spoke on this subject. He alluded to dirt as black dirt, farmers' dirt, street dirt. Turning up the roads and fields exposes a dirt containing the germs of typhoid fever, etc. Railroad cuts produce the same. Farmers' dirt contains much animal life, which is useful for the purposes of cultivation. Street dirt is poisonous in every way. The wear of the wagons constantly keeps this on the increase, and it is kept finely pulverized, and is carried by the air into the lungs of the people, not only thus but also by the additional work of the street cleaner. It should be made a penal offense for any work like street cleaning to be done without plentiful sprinkling to enable this dirt to be kept from polluting the air. Everywhere we see the broom in motion stirring up the dirt in clouds to be inhaled by every passer. Disease can not be prevented while we continue to do what we can to keep the germs which so profusely fill the street dirt exposed dry to the lungs and all parts of the system.

Water gas is deadly in every way, it is ten times more dangerous than coal gas. In Massachusetts it has been, until recently, against the law to use it. Coal gas is much better as an illuminant; 16 candle power of this gives more light than 24 candle power of water gas.

SANITARY SUPERVISION OF THE MILK-SUPPLY.

M. O. LEIGHTON, Montclair, N. J., presented an illustrated paper on this subject. It compared the dirty cow stable and the clean one; the dirty milking, the old plan of carelessly straining the milk, etc., and the proper clean method, by which all opportunity for poisoning of the milk is prevented.

A musicale and smoker was given at one of the hotels, to the delegates, by the committee of arrangements of Atlantic City, in which we were assured that the citizens gladly joined in order to show their appreciation of the work done by the sanitarians, and perhaps to prepare the public for the grand reception of the AMERICAN MEDICAL ASSOCIATION next June. This was especially mentioned to your reporter by the members, who wish the medical world to present itself in a mass on that occasion to learn the great value of this sanitary resort by the sea shore.

BACTERIOLOGIC TREATMENT OF SEWAGE.

JAMES OWEN, C.E., in presenting this topic, said that this has been for the last fifty years very complicated and difficult of solution. Water carrying causes much of the trouble. We need to return the water to its channel free of pollution; also, it is necessary to consider the amount of water used. When the place to be cared for is on tidal water it is safe to say that no change is needed, as we may carry the sewage into this and it is carried away where it can do no harm. Half the people are dependent on the problem of sewage treatment. It is always wrong to run crude sewage into water that may later be employed for drinking. Chemical or mechanical treatment generally costs too much and often fails. It has been noted that running streams have a tendency to self-purification. We can estimate the amount of sewage that can be dealt with in a running stream. Still it is often doubtful, especially if the waters are to be used for drinking. Consequently another step became necessary; the primary treatment of the sewage before it is passed into the river. In sewage dissolved oxygen is generally absent, hence we must collect the sewage in a tank where the bacteria can work without light or air, and then it is ready for discharge. Straining is but an incident. It is essential that certain bacteria be present for nitrification.

Experiments have been tried near London and at the same time in Champaign, Ill. The plan is known as the return to Nature's own methods. It has proved so successful that we may hope the problem is solved, or at least nearly so. One experiment showed the reduction of the bacteria to 95 per cent. One million gallons per acre per day can be treated at the plant near London. Other experiments, as in Massachusetts, showed a like success. What is called the septic tank receives the sewage. This is air-tight, is not screened, and the contents attacked by the liquefying bacteria and thus broken up; thence it flows over coke filters which act intermittently; 55,000 gallons a day are treated. Samples showed the oxidizable organic matters reduced to a remarkable degree; the filtrates are fairly bright and clear and fit to discharge into a river. These, when kept for some time, showed no sign of putrefaction or decomposition. While there was considerable evolution of gas, it was non-sulphuretted hydrogen and with no odor. It is clearly demonstrated that this process is adapted from a chemical and biologic point of view. Such a system was constructed for Overbrook, N. J., with four filter beds. After it was completed, no one was needed to care for it save one man for a few moments each morning, to scrape away the rags, etc. from the top of the screen. At first sand filters were employed, but subsequently coke, as slower and better. The result was a pure, clear, limpid flow discharging 40,000 gallons daily, and this plant can easily be doubled with slight cost. Outside the tank is a silt chamber which collects the solid matter—rags, etc. When the discharge stands three or four hours all odor is gone, no putrefaction occurs, but a free growth of algæ ensues. This, costing but $4000, cares for 80,000 gallons a day.

SPREAD OF TUBERCULOSIS.

DR. R. P. FRANCIS, Montclair, N. J., read a paper on "What Action Shall be Taken by Boards of Health to Prevent the Spread of Tuberculosis?" This disease is not regarded by the people as contagious, while smallpox, etc., are so well known in this category that all generally agree to the need of quarantine, etc. Public opinion must be educated in this regard and particularly to have full confidence in the boards of health, then the latter will have little difficulty in carrying out their plans for safety. There is now no doubt among sanitarians as to the contagiousness of consumption. Wherever we find this generally accepted the disease is on the decline. In fact, this holds good generally, because of the better sanitation at the present time, ventilation, living, etc. In thirty years we have a decline of over 44 per cent. It is hard to get reports of cases of consumption, and isolation would not be tolerated, for this might be needed for many years. Spitting ordinances are very valuable, and generally we find these accepted and proving useful. Spitting cups of various kinds have been offered; if we could procure a general use of these we might then destroy much of the danger by fire. Unfortunately these are limited to the bedrooms, or hospitals. Traveling also conveys this disease very readily, and milk is another means, hence the value of sterilizing. Many cows are tuberculous, unknown to the owners. Tuberculin is of great value as a means of diagnosis to show whether the cattle are thus infected. Finally, we need to give the patient early care, as shown by the results which have been obtained in many instances. It is the duty of the state to erect consumption sanitaria so that the poor may be provided with places in which they may obtain the proper treatment, this not only to prevent the spread of the disease but, as has been seen, patients may thus be cured. It was feared when the first such place was instituted that few people would be willing to go to its protection, but on the contrary we find this always full.

PROF. W. L. SEDGWICK, Boston, said that dust causes this disease very largely. Sunlight destroys the bacillus very readily. Spitting in public in Boston has been greatly stopped. The public accept the fiat with marvellous readiness. Education is the most important means by which to aid the prevention. Spitting is very much a habit, and can be done away with when people find they must not do it. We must instill into the minds of all that we can not allow the few who are diseased to constantly give to others that disease. Railroad sanitation is also a means to the prevention of this disease. The railroad people are willing to accept all our views and do all in their power to aid us. The drinking-cup is still a bad feature, not only on the roads but at the schools, and everywhere. This must be abolished, and each one required to provide his own cup. A very excellent plan adopted at some schools is the turning up of the pipe so as to cause a fountain play in the midst of the flow; at this the child can drink readily with no possibility of infecting the water. He wished to impress on all that the Hospital for Consumptives is not in Massachusetts, but in Rutland, Vt. It has been a great success.

DR. CURRIE said that the cup causes much trouble. It often carries sore throats from one person to another. Sleeping together of diseased persons also aids to spread the disease.

The Association elected the following officers: president, George W. Howell, Montclair; vice-presidents, H. B. Baldwin, Newark, H. B. Willis, New Brunswick, and J. L. Leal, Paterson; secretary, J. A. Exton, Arlington; treasurer, C. P. Olcott, East Orange.

Philadelphia Pathological Society.

Nov. 23, 1899.

MORBID CAVITIES IN THE LIVER.

DR. A. V. MEIGS, in a paper on this subject, stated that after death it is common to find cavities in the liver, usually the result of fatty degeneration, and the specimen is designated "nutmeg liver." This condition is usually associated with heart disease, and is generally the result of obstruction of the circulation. In some instances cavities are found filled with fluid of a cystic nature. In the nutmeg liver there is an overgrowth of fibrous tissue between the acini. In many of these the cavities can only result from cystic degeneration.

SARCOMA OF MEDIASTINUM.

DR. J. P. ARNOLD presented a specimen of sarcoma of the mediastinum. The patient was a man, 29 years of age, who was admitted to the Presbyterian Hospital in August, 1898. There was nothing in the family history to indicate the nature of the condition. He had been gradually failing for several months; later cough and dyspnea came on, and he lost ten pounds in weight, with, after a time, pain in the right side, with urgent dyspnea, together with cyanosis of the lips and neck. Measurement of the chest showed the right side to be 1½ inches greater than the left. Auscultation revealed exaggerated breathing on the left side. Aspirating the affected region on the right, a small amount of bloody fluid was obtained, and at one time tubercular pleurisy was thought of. On aspirating again the needle struck a hard and resisting body.

Death occurred on the nineteenth day. At the autopsy a tumor was found adherent to the mediastinum, appearing as though it originated in the anterior mediastinum, later involving the lung. The usual symptoms of tumor of the mediastinum were present, as dyspnea, cyanosis, weakness, displaced apex-beat, immovable dulness, and, on aspirating, a solid body was found. Dr. Meigs stated that a few years ago he had reported a case of sarcoma of the mediastinum in which there had been metastasis into the esophagus, oculomotor nerves, optic nerve, and the orbital lining.

EXPERIMENTAL PANCREATITIS.

DR. SIMON FLEXNER'S paper was based on results obtained in dogs, the experiments extending over eighteen months. The results proved that all varieties of pancreatitis found in man can be produced in dogs. In cats, fat-necrosis can also be produced. In these experiments he injected irritants into the duct of Wirsung, including hydrochloric acid, sulphuric acid, diphtheria bacilli, and the bacillus pyocyaneus. Of these the best was hydrochloric acid. The experiments were undertaken in order to establish whether pancreatitis is due to chemical or bacterial agencies. He found that, early, there is produced a fat-splitting ferment, detected by chemical means and by its odor. One writer believes the condition depends on a bacterial agency, while another found that the injection of bacteria into the ducts of the pancreas was followed by negative results. While all varieties of pancreatitis may be experimentally produced in dogs, that one most frequently met with is the hemorrhagic form. In some of the cases sugar was found in the urine, but the blood had not been examined. In some instances the animals were killed months after the experiments, and the changes found. In many, the areas of fat-necrosis were small. The fat-splitting ferment was found on the third day of the experiment.

TUMOR OF OCCIPITAL LOBE.

DRS. W. G. SPILLER and W. S. WADSWORTH presented this specimen. The patient was a girl, 16 years of age, who, 1½ years previously began to suffer from diplopia and various ocular symptoms. She had been in bed for three weeks preceding her entrance to the hospital. There was no ocular paralysis, no albumin and no sugar in the urine. The case was diagnosed as brain tumor. The patient had a convulsion nine months previously, followed three months later by a subsequent one. As the disease progressed, convulsions occurred daily. The tongue had not been bitten. During the convulsions the pupils were absolutely immobile. At autopsy a tumor was found which filled up the posterior horn of the lateral ventricle and extended quite deeply into the surrounding brain tissue. The right hemisphere was much atrophied. In one area there were remains of an old hemorrhage, and in another calcification was present. On section the tumor was believed to be an alveolar sarcoma.

Philadelphia Neurological Society.

Nov. 27, 1899.

FACIAL MYOPATHY.

DR. F. X. DERCUM presented a case of facial myopathy occurring in a woman 22 years of age. She was a native of Russia and the family history negative. Six years ago a tumor was removed from the back of her neck. The face appeared flattened, the fatty tissue in the region of the masseter muscles

being absent, leaving a depression. The eyes were prominent; when the patient smiled the angles of the mouth were drawn in horizontally. The muscles of the arm and leg were large, but gave no evidence of pseudohypertrophy. The facial responded to both the faradic and galvanic current.

GYNECOLOGIC SUGGESTION IN MELANCHOLIA.

DR. FRANK SAVARY PEARCE reported a case of melancholia cured by gynecologic operative suggestion. The patient was a woman, 25 years of age, admitted to the Howard Hospital in October, 1898, stating that she had been raped and in consequence had become pregnant. With this delusion there also existed symptoms of hypochondria and melancholia. At one time she had taken pennyroyal with the intention of causing abortion. When admitted, anemia was intense. Dr. J. B. Shober had made an examination and had found an acute anterior flexion. A curettement was done and the menses became regular. In May of the present year the patient appeared to be relieved of her symptoms.

EPILEPTIC AMBULATORY AUTOMATISM.

DR. PEARCE also reported a case of this condition, some attacks probably due to gastro-intestinal autointoxication. The patient was a dyspeptic and frequently suffered from acute attacks of indigestion, during which time large quantities of gas would be expelled, indicating rapid fermentation. Occasionally he would manifest symptoms of grand mal, and at times would become maniacal. During one of these spells he called loudly for his wife and ran from one room to the other, clutching the beds as he ran. Later he fell into a post-epileptic sleep and after expelling a large quantity of gas experienced relief. Under salol and hydrochloric acid the attacks became less frequent and his health has greatly improved.

CEREBROSPINAL SYPHILIS.

DR. F. X. DERCUM reported a case of cerebrospinal syphilis with unusual brachial palsy. The patient was a colored man, 25 years of age, who four years previously had suffered from syphilis. Eighteen months ago he began to suffer from palsy in the ocular muscles, together with headache and marked disturbance of sleep, and fourteen months ago became unable to extend the fingers of the right hand, while the muscles of the forearm became weak; three months later the left arm became similarly afflicted. Afterward the flexor group of muscles showed evidences of palsy. The triceps was almost totally paralyzed, while the biceps was in good condition. The muscles of the forearm were atrophied; the pronators were weak, but the function of the supinators was not interfered with. There were no bladder symptoms; knee-jerk was increased. The condition, therefore, was one of lower arm palsy, and the lesion probably in the region of the seventh or eighth cervical segment.

ISOLATED ABDUCENS PALSY.

DR. WENDEL REBER, by invitation, reported a case of this condition, probably peripheral, in a woman, 50 years of age. The first symptoms appeared in July of the present year. She stated that one morning when she awoke the left eye was rotated inward; on examination, diplopia was found, as was also a high degree of myopia. On questioning closely it was found that she slept in a draft, and nearly always on the right side. The urine contained a large percentage of uric acid. Treatment consisted in adjusting glasses, stretching the ocular muscle affected, and in the administration of potassium iodid and salicylate of sodium. The patient is now again able to rotate the eye in all directions.

AMYOTROPHIC LATERAL SCLEROSIS.

DR. WM. C. SPILLER reported a case showing the extent of the motor cortex in man. The patient had been a laborer, and was 55 years of age. In November, 1897, symptoms had begun with dribbling of saliva, and later loss of motion in the legs, the muscles of which became much atrophied. The patient died about one year after the symptoms became manifest. Examination consisted in making sections in many areas of the motor tract of the brain and down the spinal cord. It was found that areas of degeneration had been present and there had been marked pigmentation of certain nerve-cells, especially in the cortex of the brain. The anterior roots of the spinal cord were atrophied. The areas of degeneration of this case were traced by the Marchi method. The changes found showed that atrophy as well as degeneration was one of the changes.

Denver and Arapahoe Medical Society.

Denver, Colo., Nov. 14, 1899.

AUTOINSUFFLATION OF THE STOMACH.

DR. C. D. SPIVAK described the various methods of insufflation of the stomach, and pointed out the following disadvantages in the use of carbonic acid gas, atmospheric air or air exhaled from the lungs of the operator.

1. Since stomachs are not all alike in point of capacity, it is impossible to estimate beforehand the exact quantity of the acid and alkali required to generate sufficient carbonic acid gas to just fill the stomach. At one time the quantity may prove insufficient, and the procedure must be repeated. At another, the quantity may prove too large and cause distress to the patient on account of overdistension.

2. Since the physician is unable to increase or diminish the quantity of air introduced, he is unable therefore to examine the stomach under different states of distension.

3. As the gas begins to escape through the mouth as soon as generated, it is obvious that inspection, palpation and percussion must be performed in a great hurry, and therefore imperfectly.

4. Carbonic acid gas acts in many instances as an irritant to the mucous membrane of the stomach.

5. The introduction of atmospheric air into the stomach by means of a spray apparatus requires an assistant, otherwise the physician is unable to inspect and percuss the abdomen at the same time.

6. The introduction of atmospheric air requires a separate instrument—a spray apparatus.

7. The insufflation of the stomach by means of blowing into the stomach, the exhaled air from the operator's lungs, through the stomach-tube, is unsatisfactory from a mechanical standpoint. The operator has to blow with his mouth, clamp the tube with one hand so that the stomach contents of the patient should not come in contact with the mouth of the operator, and there is only one hand left for the imperfect performance of the palpation. Percussion, as a matter of course, is out of the question.

The exhaled air is certainly not an esthetic method, notwithstanding the fact that Dr. Fürbringer claims (*Deutsche Med. Woch.*, Oct., 5, 1899) that none of his patients have ever objected to the use of his breath. The German patients must differ in nature from the Americans. The American patient dares to ask his physician whether he is sure that the stomach-tube has been carefully sterilized.

9. The exhaled air is not hygienic. The patient or the physician may suffer, or they may suspect one another to suffer from tuberculosis, syphilis, foul breath, or what not.

Dr. Spivak exhibited his autoinsufflation tube, by means of which the patient is able to insufflate his own stomach by the breath of his own lungs. It is well known that a man with a tube in his throat is able to converse, sing and blow. Why should not the patient blow up his own stomach? This tube is the regular stomach-tube, with a side opening made at such a distance from the proximal end that when the tube is *in situ* the opening is to be found in the buccal cavity. The free end of the tube is clamped, and the patient is told to shut his lips and blow up his cheeks. The air in the mouth finds its way into the stomach through the side-opening. The patient is to keep his mouth shut until the end of the operation.

Dr. Spivak summed up the advantages of his method of autoinsufflation as follows: 1. The stomach tube answers the purposes of insufflation. No other instrument is necessary. 2. The method is absolutely under the control of the physician. 3. The procedure is harmless. 4. The patient will not object to using his own breath. 5. The operator is in no way handicapped. He is free to inspect, palpate, percuss and even talk to his patient. 6. The physician runs no risk of tasting the stomach contents of his patient.

SOME REASONS WHY THE EYE SHOULD RECEIVE MORE ATTENTION AT THE HANDS OF THE GENERAL PRACTITIONERS.

DR. MELVILLE BLACK read a paper on the above subject. He said, in part: The eyes are presided over by the external geniculate bodies, and the oculomotor, trochlear, and abducens centers. The amount of brain territory occupied by all these centers is about six times that devoted to the leg centers. We

can by comparison of the amount of brain centers devoted to each, form some estimate of the enormous amount of nerve force the eyes demand. It is a well-known fact that Nature makes mistakes. It is exemplified in the eyes. They are called on for more work than any other organ in the body. It is most important that their associate action should be undisturbed; else there is an excess of nerve force expended in the endeavor to bring about harmonious action. So long as the economy is able to provide the additional nerve force, the individual may be unconscious of its loss, but just as soon as the vital force is unable to keep the supply up to the demand, then the fight for supremacy begins between the eyes and the other organs. The eyes may not give evidence of being in any way disturbed, but some remote organ may be affected, the heart may drop a beat now and then, may become weak in power or rapid in action. The stomach, lungs, liver or kidney may be suffering from a deficiency of nerve supply. He believes that every physician should be equipped to make an examination of the vision and the muscle balance. The apparatus required would be a box of prisms and a candle and a test cord. The cost need not exceed $10. Many a case of functional heart, kidney, liver or stomach trouble would in this way be diagnosed as indirectly due the eyes, and the appropriate correction of the ocular error recommended. The "refracting optician" is certainly not qualified to handle an organ which has such an important bearing on others. The services of the optician should only be required in cases which the general practitioner can not handle.

Southern Surgical and Gynecological Association.

(Continued from p. 1550.)

SECOND DAY—MORNING SESSION.

SURGERY OF BILIARY CALCULI.

DR. W. D. HAGGARD, Nashville, Tenn., contributed a paper on this topic. He emphasized the frequent findings of gall-stones —10 per cent.—in the abdominal cavity, but said their unsuspected existence was not a valid contraindication to operation in cases which, owing to certain complications, menace well-being and perhaps life itself. After enumerating the usually assigned cause of gall-stones, he emphasized the undetermined probability of infection. The continuous pain in inflammatory and suppurative conditions of the biliary passages was contrasted with the intermittent and paroxysmal pain from biliary concretions. In connection with the diagnosis, the fact that jaundice was not essentially a sign of gall-stones was urged, and waiting for icterus as an evidence of their existence was hurtful.

The relatively small number of operations, compared with the frequency of the disease, indicated that they were either overlooked, failed to give rise to serious trouble, or that the symptoms were taken for other diseases.

He quoted from Robson the indications for operation. The various incisions were described, and the operations of cholecystotomy, cholecystendysis, modified cholecystotomy—without suture—and cholecystectomy were discussed.

He said that the surgery of the gall-bladder was almost perfected, but the management of calculi in the ducts by various methods was yet unsettled. He discussed the various operations on the ducts. He also reported the following case of colo-cholecystostomy for chronic catarrhal cholangitis with gall-stones:

B. J. G., white, male, aged 27. Had his first severe attack of biliary colic attended with tenderness and jaundice in February, 1897. He had a severe light attack of hepatic colic some weeks before. He was operated on the day after he was taken with the severe attack, by Dr. J. F. W. Ross, Toronto, Ont. A number of stones were removed, a fistula made, and a drainage tube kept in for two weeks. The fistula remained open until June, 1897, when Dr. Ross closed it by suture, and the man, who had been in bed the whole of four months, was up in a week. In November, 1897, he again had a number of attacks of colic and jaundice, which kept up intermittently until March, 1898, when Dr. L. McLane Tiffany, Baltimore, Md., opened the gall-bladder, but finding no stones he closed it by immediate suture, fixing it to the abdominal wall, and closing the incision throughout. In June of the same year, while still in the hospital, he was again seized with attacks of colic and transient jaundice, which, in the absence of Dr. Tiffany in Europe induced his assistant, Dr. I. R. Trimble, to again open the gall-bladder for exploration. Dr. Trimble found no stones, and thought he succeeded in passing a rubber catheter through the cystic duct, and thence into the duodenum. The gall-bladder was sutured and attached to the abdominal incision, which was closed by buried and superficial silkworm gut sutures. On July 3, he had received a blow on the skull with a piece of wood in the hands of a drunken assailant, which resulted in a fracture of the skull, which was elevated by Dr. Robert Pillow, of Columbia, Tenn.

In August, 1899, fourteen months after the third gall-bladder operation, the pain and colic returned, and were rather frequent and more severe than ever before. On October 1 he had a spell that lasted four days, and could obtain no relief from anything. He came to see Dr. Haggard in Nashville, and while there had one of the worst attacks he had ever seen of biliary colic. He gave the patient 2¾ gr. of morphia hypodermically in less than three hours, without any appreciable effect on the agonizing pain. He was not accustomed to taking morphia, and ⅛ gr. after the operation had a very happy and full effect.

On Nov. 12, 1899, in the presence of jaundice, which had existed pitifully for two months, Dr. Haggard made an exploratory operation through the old scar, parallel with the ribs. As the gall-bladder was attached to the parietes, it was opened, and a black, tarry fluid was found therein, and one single, large gall-stone, soft and perfectly black and somewhat larger than a cherry stone, together with some smaller crystal-like stones. An effort was made to catheterize the ducts, as had been reported to have been done before, without success. The gall-bladder was irrigated and temporarily packed with gauze. It was then dissected from the parietes below, and a careful palpation of the ducts was made, but no other stones could be detected. The adhesions were considerable, as the result of so many previous operations and such long-continued inflammatory trouble, and the gall-bladder was much contracted. Kelly, Senn and Murphy had all advised a cholecystectomy, but after he found no calculus obstruction to account for the recent colic and existing jaundice, he concluded it must be a chronic catarrhal cholangitis with inflammatory obstruction that came and went. He therefore deemed it unwise to do a cholecystectomy and decided to do a cholecystenterostomy. The duodenum, however, was so matted with adhesions, and the gall-bladder was contracted to such an extent, that he did not think he could make the anastomosis with safety. He therefore utilized the hepatic flexure, and made a Murphy button anastomosis with gauze drainage. There was no untoward symptom; a little bile came out after the gauze, when it was removed on the third day, but none thereafter; the drainage tract closed quickly. The jaundice faded, urine cleared up, and the patient had two normal bowel actions a day, whereas he had been previously taking purgatives daily. He went home at the end of two weeks, with a clear complexion, and a gain in weight, and has had no trouble since, but the button has not passed.

McGuire reports a button retained over a year in cholecystenterostomy, but Treves has never had one remain in the gall-bladder.

DR. F. W. MCRAE, Atlanta, Ga., narrated a case operated on a few months ago in which a diagnosis of cholecystitis was made. At the operation an unusual condition of affairs was found. Instead of a distended gall-bladder, he found enlargement of the liver, with great distension of a cavity in this organ, hard and nodular to the feel, and occupying this cavity and some small pockets in various directions in the liver were fifty-eight stones, which he exhibited. The adhesions were extensive, but no pus was found.

DR. J. G. EARNEST, Atlanta, Ga., directed attention to the symptom, jaundice, saying that it does not appear unless there is obstruction of the common duct. Simple obstruction of the cystic duct does not necessarily produce it. In two or three cases in which he has found the gall-bladder filled with inspissated mucus and complete obstruction of the cystic duct, but no obstruction of the common duct, there was no jaundice, while in other instances of common duct obstruction, jaundice was present.

DR. HUGH M. TAYLOR, Richmond, Va., recalled a case which was diagnosed at first as cholecystitis. The patient had been jaundiced for six weeks. The abdomen was opened, and on incising the gall-bladder and removing a stone from it, he found no obstruction of either the cystic or common duct. He did a

cholecystostomy, and drained the gall-bladder, but the patient did not recover. Two months later he reopened the abdomen, and, after a very careful examination, found malignant disease of the head of the pancreas sufficient to press upon the common duct and produce jaundice.

DR. MANNING SIMONS, Charleston, S. C., reported a case in which he removed the whole gall-bladder, and said, after a careful search of the literature at his command, he could only find twenty cases. The tumor in his case presented just below the ninth rib, as large as a goose egg. An exploratory operation was made, and the tumor was found to be the gall-bladder, which was removed because its walls were greatly thickened and pus had disseminated itself throughout them. He believes that if it had not been removed at that time, and promptly, there would have been extravasation of pus into the abdominal cavity. Three gall-stones were found. There was very little jaundice present.

DR. A. M. CARTLEDGE, Louisville, Ky., spoke of the cholemic cases, and said that in the use of the normal saline solution, he employed either subcutaneously or per rectum, for ten days, two weeks, or in bad cases three weeks, before operative interference, surgeons have one of the most valuable means of overcoming cholemia in patients with gall-stones.

The paper was further discussed by Drs. Lewis S. McMurtry, J. Wesley Bovée and George S. Brown.

INFLAMMATION OF MECKEL'S DIVERTICULUM WITH RESULTING GANGRENE OF INTESTINE SIMULATING APPENDICITIS.

DR. WM. P. NICHOLSON, Atlanta, Ga., followed with a paper on this subject. He said that the pathologic conditions arising from the diverticulum have been in most cases due to portions of the intestine being entrapped within the encircling cord where the diverticulum has existed in this form; in some instances there has been an acute inflammation of the pervious tube, that has caused adhesions and resulting obstruction. Again, the inflammation seems to have extended to the intestinal tube, causing paresis of the bowel, especially simulating the later stages of appendicitis. In a few cases the symptoms and signs have been so much like inflammation of the appendix that a diagnosis has not been possible. He reported an interesting and instructive case, and briefly mentioned other cases he had found in consulting the literature. He also reported a case of successful implantation of an artificial testicle.

TWO CASES OF INTRALIGAMENTOUS CYSTS.

DR. T. J. CROFFORD, Memphis, Tenn., reported these cases:

CASE 1.—Miss T., aged 50, presented herself with an abdominal tumor, July, 1899. A few days later the abdomen was opened, and the tumor found to be an intraligamentous cyst. Both ovarian arteries were ligated and the uterine artery on the healthy side at as low a level as the internal os. The uterus was cut across, the uterine artery secured on the tumor side and the enucleation of the tumor proceeded with. The loss of blood was considerable, although the enucleation was done rapidly. Several arteries in the broad ligament required ligation, and one or two deep down in the pelvis needed to be secured before hemorrhage was under control. The cavity was obliterated as much as possible by suturing together the two layers of the ligament. The woman recovered.

CASE 2.—Mrs. S., aged 42, presented herself with an abdominal tumor Oct. 31, 1899. During the month of June last she experienced an attack of acute peritonitis which came near being fatal. The acuteness of the attack subsided, but a chronic peritonitis has existed ever since. Abdominal section was made November 6. Two tumors were found, one on each side, developed between the layers of the broad ligaments. The ovarian arteries were secured near the brim of the pelvis. The tumors, which were not of very large size, were separated from the uterus as far down as the operator dared, and the uterine arteries were secured as low as possible after emptying the cysts. The hemorrhage was alarming at every attempt at enucleation, on all sides. The larger vessels in the broad ligaments and walls of the cysts, several in number, were therefore ligated. The upper portion of the sacs was trimmed off and covered with peritoneum. After the oozing had stopped the abdomen was closed without drainage. The patient has had an uninterrupted convalescence and has returned to her home.

The essayist said that Dr. Rufus B. Hall, of Cincinnati, had proposed the method of ligating both ovarian arteries and the uterine artery on the healthy side. The uterus was next amputated on a level with the internal os; the uterine artery on the tumor side was not secured when he could peel out the cyst from between the layers of the broad ligament with a bloodless result. While he did not wish to detract from the merits of this achievement, yet the method is not to be implicitly relied on as it will not control hemorrhage in all cases to a safe degree; in some instances there will be found other vessels requiring ligation before the hemorrhage can be controlled within the bounds of safety. Some tumors of the broad ligament can be peeled out without hemorrhage; others will be attended with considerable loss of blood.

PRESIDENT'S ADDRESS.

DR. JOSEPH TABER JOHNSON, Washington, D. C., in his address, touched on general subjects pertaining to the work and growth of the Association. He said the southern part of our country had furnished many noted surgeons and gynecologists to the medical profession, hence the name of the Association derived greater appropriateness and significance from this fact. He referred to McDowell, Eve, Dudley, Sims, Thomas, Battey and Emmet. The best gynecologists are now the best surgeons, as far as they go. In abdominal, pelvic and genital surgery, few general surgeons equal, and none surpass them. Their field of work is more narrow, but none the less perfect and important on that account. While many gynecologists might take exception to such an absorption of our specialty, the gradual expansion of our work to the female pelvis gives the important argument for such an occurrence in the not distant future. It is not difficult to recall when gynecology was limited altogether to vaginal and pelvic work. Now there are very few gynecologists who are not operating on any tumor between the diaphragm and the vulva. The gynecologists attack ulcers and abscesses of the stomach, and anastomose that organ with the intestine. They do all the surgery of the ureter and kidney, the liver and gall-bladder, of the intestines, the spleen and pancreas. They operate for appendicitis and for all the varieties of hernia, and do the surgery of the bladder, the rectum and the mammary gland.

There was no afternoon session of the second day. The members and guests took the steamer *Warren* and rode to the sugar plantation Stanton, and inspected it. (See JOURNAL, December 16, p. 1561).

SECOND DAY—EVENING SESSION.

EXPERIENCE IN OPERATIONS FOR TYPHOID PERFORATION.

DR. HUGH M. TAYLOR, Richmond, Va., read a paper on this subject. He said it is claimed that one-third of the deaths from typhoid fever are due to perforation, this being credited with a mortality of 16,660 each year in the United States. The specialist in surgery appreciates what surgery can do and has done in the treatment of typhoid perforations. The general practitioner, into whose hands these patients annually first fall, is not so well informed, and he believes the Association should express itself in no uncertain sound. It is claimed, too, that one-fifth of the deaths from typhoid fever are due to hemorrhage. This being so, it would seem just as unsurgical to let a typhoid patient die without an effort to save his life as it would be in the case of profuse hemorrhage from a gastric or duodenal ulcer, or even a ruptured tube gestation. The author reported five cases, with one recovery from operation. He said that less than two hundred cases have now been operated on, and when one recalls the thousands of cases annually occurring, the need of co-operative study is apparent. Nothing short of a moribund condition of the patient should warrant surgeons in abandoning a case as hopeless. The key to success is early operation. More than one-fourth of the cases operated on have been saved by early surgical intervention. He believes that surgeons should be able to save more than 33 1/3 per cent. by a timely operation.

CASES OF ABDOMINAL SURGERY.

DR. F. W. MCRAE, Atlanta, Ga., reported some interesting cases of abdominal surgery. The first case was one on which he operated for a pancreatic cyst; the second for hepatic calculi; the third for fecal fistulæ, and in the fourth he did a combined appendectomy and nephrorrhaphy.

LITHOLOPAXY.

DR. GEO. S. BROWN, Birmingham, Ala., read a paper with

this title. A very limited experience with the operation of litholopaxy has led him to believe that it is being unwisely, although not altogether unreasonably, neglected. The most important cause for this neglect is that perhaps cutting operations, particularly the suprapubic, are very easy to do, and the results very satisfactory. He quoted the statistics of the different methods of operating for stone in the bladder, and reported cases in which he had resorted to litholopaxy with good results. He believes the majority of stones met with in practice in this country can be removed with the lithotrite in the hands of an ordinarily careful surgeon, and that while it is not an operation to be undertaken by the general practitioner, no operating-room should be without one, as the suffering and time spent in bed are almost entirely eliminated, and the mortality is very much lower than that for either of the cutting operations.

THIRD DAY—MORNING SESSION.

DR. E. D. FENNER, New Orleans, La., reported fifteen cases of spinal injuries, treated at the Louisiana Charity Hospital.

DR. GEO. H. NOBLE, Atlanta, Ga., described the modification of an operation for cystocele. He also reported a case of seventeen years' congenital, nocturnal incontinence of urine, and one of pregnancy in a uterus bicornus.

DR. I. L. WATKINS, Montgomery, Ala., presented a paper on the "Treatment of Retrodisplacements of the Uterus."

The following officers were elected: president, A. M. Cartledge, Louisville, Ky.; vice-presidents, Manning Simons, Charleston, S. C., and W. P. Nicholson, Atlanta, Ga.; secretary, W. E. Davis, Birmingham, Ala.; treasurer, W. D. Haggard, Jr., Nashville, Tenn. Atlanta, Ga., was selected as the place for holding the next meeting, the second Tuesday in November, 1900.

Ninth International Congress of Ophthalmology.

Utrecht, August.

(From Revue Gen. d'Oph., Presse Med. and Nord Med.)

DIAGNOSIS OF SINUSITIS.

LAPERSONNE called attention to the ocular manifestations which are sometimes the only means of diagnosing grave sinusitis, with three typical observations in which unilateral optic neuritis with stasis of the papilla was the only clew to the discovery of lesions of the sphenoid sinus and posterior ethmoid cells.

RENDERING LENS OPAQUE.

JOCQS recommended a method of rendering the crystalline lens opaque, which he had found very harmless and effective in experiments on rabbits and dogs: after anesthesia of the cornea and dilation of the pupil with cocain, he punctures the anterior chamber at the periphery with a fine needle in the Pravaz, and aspirates a few drops of aqueous humor into the syringe, then, without removing the syringe from the anterior chamber, he punctures the lens obliquely and injects into it the aspirated fluid. By the second to fifth day thereafter the lens has become opaque and the whole of it can be readily extracted like a soft cataract in childhood. Bull called attention to the desirability of stereoscopic tests for measuring the degree of difficulty of fusion of the two images, paying particular attention to the subjective sensations of the subject.

TRACHOMATOUS CONJUNCTIVITIS.

COPPEZ described his method of treating this affection: electrolysis under chloroform, with the negative electrode on the granulations—Wecker's small steel fork—the current, 4 to 5 milliamperes; never allowing the points to enter the tissues, which are then wiped and gently frictioned with tampons moistened with 4 per 1000 sublimate. There is no pain afterward. A bandage is worn for twenty-four hours, to prevent swelling of the lids; lachrymation is soothed with cocain. The production of a thin false membrane the next day is indication that the maximum effect has been attained, and the granulations then rapidly disappear. The conjunctiva is then brushed with a cotton tampon—dipped in 4 per 1000 sublimate twenty to thirty times—until it is slightly tinged with blood. This is repeated every day. If a thick pannus covers the cornea the conjunctiva is painted three or four days after the electrolysis—once—with a 5 per cent. maceration of jequirity. Over 350 patients have thus been treated with almost constant success. The total length of treatment varies from three to six weeks. Obarrio described his test of vision by noting the minimum displacement perceived on dividing a luminous line into two parallel halves. The test is the same for all colors, and he establishes the minimum visual angle at 14 seconds.

SEA-WATER IN INFILTRATIONS OF CORNEA.

DIANOUX reported his success in the treatment of all infiltrations of the cornea with injections of sea water, as chemically analogous to human serum. He finds it more rapidly effective than any other method.

VARIABILITY OF CURVE IN CORNEA.

PFALZ has been studying a number of subjects for four years—controlled the last two with Sulzer's eccentric ophthalmometry—with 2574 tests in all, both ophthalmometric and optometric. He thinks he has approached the solution of the questions in respect to the variability of the curve of the cornea with age and the share of the curve of the lens in the total refraction: 1. The curve of the cornea changes from childhood up, the change varying in intensity, stationary at times, but never retrogressing, continuing in the sense of primordial rectus astigmatism into inverse astigmatism. 2. In inverse astigmatism the astigmatism of the lens plays a more and more prominent part after the thirtieth year. Sulzer's assertion that every case of inverse astigmatism without astigmatism of the cornea perceptible by the ophthalmometer should be attributed to an eccentric inverse astigmatism does not apply to any except young subjects. In the adult and at an advanced age it should be attributed to astigmatism of the lens, usually inverse. 3. Astigmatic accommodation has some share in the determination of astigmatism in young subjects, but only in regular astigmatism. With advanced years this condition of the lens surpasses the astigmatism of the cornea. The rarity of this occurrence in youth is due to the elasticity of the lens and its more spherical form. It is only after 30 that the inverse form becomes evident. The elasticity of the lens in youth is more pronounced in the vertical than in the horizontal meridian.

The next session of the Congress will be in Switzerland in 1904.

St. Louis Medical Society.

Dec. 2, 1899.

EPIDEMIC CEREBROSPINAL MENINGITIS: A CLINICAL AND BACTERIOLOGIC STUDY OF THE CASES.

DR. R. B. H. GRADWOHL, by invitation, read a paper on this subject. He began with a history of the disease in its most important visitations to Europe and this country, and then gave a complete description of the diplococcus intracellularis meningitidis, following the outline of investigation laid down by the Committee of American Bacteriologists in their report to the Committee on the Pollution of Water-Supply, of the American Public Health Association. This included a full description of the morphologic and biologic characteristics of the organism. His reason for exhaustively following out this investigation was that a complete bacteriologic investigation of this micro-organism had not previously been made. He then gave an account of the pathogenesis of the diplococcus intracellularis for the lower animals, especially dogs and cats, in which he succeeded in reproducing the disease by inoculations into the subdural spaces. He proved that the virulence of the infection in these animals corresponded with that of the infection in a particular case in man.

Pathologic findings were then narrated. Gross changes consisted for the most part in a purulent exudation over the meningeal surfaces. Microscopic changes consisted of an increase in the nuclein of the protoplasm. Various degrees of degeneration were noted in the cranial and spinal nerves. The cord showed changes similar to those pointed out by Barker, i. e., a disintegration in the stained section of the individual Nissl bodies, especially in those of the dendrites and of the periphery of the cell body; also a breaking down in the center of the cell and displacement of the nucleus to its periphery.

In these cases, the diplococcus intracellularis was demonstrated in all but one case; in that one the micrococcus lanceolatus was found, and this case, clinically, was no different from

the others. Emphasis was laid on lumbar puncture for diagnostic and prognostic reasons. A chart and graphic representation of these cases from a clinical standpoint was then shown and some of the cases detailed more extensively.

The conclusions of the doctor are as follows:

1. Epidemic cerebrospinal meningitis is a specific, infectious disease. 2. It is not highly contagious, but only so in the sense that tuberculosis pulmonalis is contagious. 3. The diplococcus intracellularis is the prime etiologic factor in the causation of epidemic cerebrospinal meningitis. 4. In all suspected cases of meningitis, lumbar puncture should be resorted to as a means of differential diagnosis between the sporadic and the epidemic form, and also for prognostic reasons. 5. The Gram method of staining is a rather uncertain means of differentiating the diplococcus intracellularis from the micrococcus lanceolatus. 6. The diplococcus intracellularis is especially pathogenic for dogs and cats. 7. The virulence of the infection, i. e., of the diplococcus intracellularis, varies in different cases and in different periods of its visitation on the same patient; the virulence of the infection tends toward an attenuation with the further progress of the disease, and in the more chronic cases which have gone beyond the period of one month the virulence of the infection is almost lost. 8. The sign of Kernig is pathognomonic of meningitis. 9. Epidemic cerebrospinal meningitis can be transmitted *in utero*, as in a case reported—the twelfth case of the epidemic.

Detroit Medical and Library Association.

Detroit, Mich., Dec. 5, 1899.

CONTAGIOUSNESS OF TUBERCULOSIS.

DR. E. L. SHURLEY read a paper entitled, "The Nature and Causes of Tuberculosis." He said that the disease had been declared dangerous to the public health, contagious, infectious, etc., by a very worthy portion of the medical profession, besides several of the sanitary bureaus of the different civilized countries, but that this declaration had been rejected by the minds of many equally responsible, honest and earnest medical observers. In Austria and Italy, he said, pulmonary consumption had been declared contagious, at the beginning of the present century, and subjects of the disease were isolated and quarantined until humane and intelligent persons were moved to compassion by the pitiable condition of the people placed under the working of the law, and so effectually interceded that the laws were abrogated. History is now about to repeat itself in many of the states of the Union, and especially in our own state. The Doctor then proceeded to make a plea against the enforcement of a law quarantining and isolating consumptives. The trend of his argument was that when a disease is so dangerous that it spreads from a sick person to a number of healthy persons readily, by contact, carrying also serious or fatal consequences, there can be no question that rigid quarantine and isolation regulations should be enforced against it. But when spreading—if at all by contagion—slowly, covering months or years in its course, it does not call for such measures. Tuberculosis is a disease of the latter character, because it is believed to be a disease which attacks only those who have a tendency or a nidus for its development; because certain forms occur in which no bacilli of tuberculosis can be found; because even in an artificial way, under intelligent supervision and outside the operations of the natural laws of chance, the attempt to produce this disease in the lower animals susceptible to it often fails, and where success has resulted it is probably in cases where the animals are diseased or have been living under the most adverse sanitary environments; because there are a great many thousand instances where a person has been exposed, under distressing circumstances, for a long time to a tuberculous patient without contracting the disease. In conclusion, the Doctor said: "If the medical profession is to have, as it should, the custody of the public health, then it is for the medical profession to say how far patients shall be required to give up their business, their prospects in life, and everything that is close and dear to them of a temporal nature for the benefit of their fellows. I feel for one as though I would quite as lief ask my neighbor to go upon the scaffold and give up his life to expiate the sins or excesses of his ancestors as to ask him to give up his business, his home, and allow himself and his family to become ostracized paupers until the end of his life, because he has a chronic cough."

Detroit Academy of Medicine.

Nov. 28, 1899.

PERNICIOUS VOMITING OF PREGNANCY.

DR. FRANK B. TIBBALS read a paper. He said in substance: The term pernicious vomiting is applied only to those grave cases where persistent vomiting and retching threaten life because of the malnutrition and anemia they induce. In the pernicious cases all drugs, except in so far as they go toward sustaining life, are useless. Hence treatment must be based on the conclusions drawn from a careful physical examination of the patient, especially from a thorough exploration of the pelvic organs. Among the more common abnormalities that are found and for which treatment must be instituted are: stenosis of the external or internal os; cysts of the cervix; malpositions of the uterus. Some patients are helped by local applications to the cervical canal; others are relieved by replacing and supporting a displaced uterus. If such treatment fails and the patient's condition is precarious, the cervix should be dilated fully, under anesthesia, and a mixture of Churchill's iodin and carbolic acid applied to the cervical canal. Precariousness is indicated by the condition of the heart, as shown by the pulse rapidly increasing in rate and failing in strength. Three cases were reported to show the lines of treatment. In one, rapid emptying of the uterus was indicated; in another, that of a single woman, any interference seemed contraindicated; while in the third, even with drugs and rectal feeding, strength failed until thorough dilatation of the cervix was tried with the best results.

Western Surgical and Gynecological Association.

The ninth annual meeting will be held in Des Moines, Iowa, Dec. 27 and 28, 1899. The following papers will be presented:

1. Neglected Surgical Cases.
   W. B. LA FORCE, Ottumwa, Iowa.
2. Osteomyelitis. CHARLES C. ALLISON, Omaha, Neb.
3. Cholelithiasis: Clinical Observations and Operations.
   A. H. FERGUSON, Chicago.
4. Surgical Diseases of the Biliary Passages.
   B. B. DAVIS, Omaha, Neb.

4A. A Contribution to the Surgery of the Common Bile-Duct.
J. E. SUMMERS, JR., Omaha, Neb.

5. Renal Calculus with Symptoms Extending Over Thirty-three Years: Operation: Cure.
   H. E. PEARSE, Kansas City, Mo.
6. How to Get Union in Ununited Fractures.
   A. C. BERNAYS, St. Louis, Mo.
7. What Should Be Our Treatment of Fractures of the Anatomic Neck of the Humerus, Complicated by a Dislocation of the Head?
   W. JEPSON, Sioux City, Iowa.
8. Acute Suppurative Arthritis of Children.
   JAMES E. MOORE, Minneapolis, Minn.
9. Congenital Hip-Joint Disease. J. P. LORD, Omaha, Neb.
10. President's Address. H. C. CROWELL, Kansas City, Mo.
11. Surgery in Relation to Persons of Advanced Age.
    MILO B. WARD, Kansas City, Mo.
12. Criminal Abortion. A. D. WILKINSON, Lincoln, Neb.
13. Improved Technic in Gynecic Surgery.
    HENRY P. NEWMAN, Chicago.
14. The Vaginal Route.
    O. BEVERLY CAMPBELL, St. Joseph, Mo.
15. Notes on the X-Ray: Its Usefulness and Mistakes.
    J. RUDIS-JICINSKY, Cedar Rapids, Iowa.
16. Oöphorotomy for Functional Nervous Diseases Occurring During Menstruation.
    D. C. BROCKMAN, Ottumwa, Iowa.
17. Gynecologic Complications of Neurasthenia from a Neurologic Standpoint. JOHN PUNTON, Kansas City, Mo.
18. A Case of Fibroma Uteri. D. W. BASHAM, Neal, Kan.
19. Traumatic (?) Aneurysm. A. F. JONAS, Omaha, Neb.
20. The Longitudinal Wire Suture in the Radical Operation for Hernia.
    M. L. HARRIS, Chicago.
21. Cystosarcoma Occurring Simultaneously in Both Ovaries.
    VAN BUREN KNOTT, Sioux City, Iowa
22. Operable and Inoperable Cases of Carcinoma Uteri.
    JACOB GEIGER, St. Joseph, Mo.
23. The Tolerance of the Gravid Uterus, with Case.
    H. C. YOUNG, Bloomfield, Iowa.
24. A Peculiar Case of Ectopic Gestation.
    E. HORNIBROOK, Cherokee, Iowa.
25. Hematoma of the Vulva and Vagina.
    A. L. WRIGHT, Carroll, Iowa.
26. Trauma as an Etiologic Factor in Tuberculosis of Bones and Joints.
    GEORGE R. HIGHSMITH, Carrollton, Mo.
27. Some Laparotomy Cases Presenting Unusual Features.
    G. G. COTTAM, Rock Rapids, Iowa.
28. Pathologic Uterine Discharges.
    W. J. WILLIAMS, Adel, Iowa.
29. Oöphorectomy. J. W. COKENOWER, Des Moines, Iowa.

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SATURDAY, DECEMBER 23, 1899.

TO THE MEMBERS OF THE MEDICAL PROFESSION IN THE UNITED STATES.

The cause of humanity and of scientific progress is seriously menaced. Senator Gallinger has again introduced into Congress the Bill for the "Further Prevention of Cruelty of Animals in the District of Columbia," which he has so strenuously and misguidedly advocated in the last two Congresses. It is Senate Bill No. 34. Twice the Committee on the District of Columbia has, also unfortunately and misguidedly, reported the bill with a favorable consideration. It is speciously drawn to seem as if it were intended only in the interest of prevention of cruelty to animals, but the real object is twofold: 1, to prohibit vivisection and, 2, to aid the passage of similar bills in all the state legislatures.

It hardly needs to be pointed out that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry and the three medical departments of the Government, the Army, the Navy, and the Marine-Hospital Service. The animals themselves might well cry out to be saved from their friends. No more humane work can be done than to discover the means of the prevention of diseases which have ravaged our flocks and herds. All those who raise or own animals, such as horses, cattle, sheep, pigs, chickens, etc., are vitally interested in the preservation of their health and the prevention of disease.

The inestimable value of these scientific researches as to the prevention and cure of disease among human beings it is superfluous to point out. Modern surgery and the antitoxin treatment of diphtheria alone would justify all the vivisection ever done.

As my attention has been called officially to the introduction of the bill, I take the opportunity of appealing to the entire profession of the country to exert itself to the utmost to defeat this most cruel and inhuman effort to promote human and animal misery and death and to restrict scientific research. It is of the utmost importance that *every physician* who shall read this appeal shall *immediately* communicate especially with the senators from his state, shall also invoke the aid of the representatives from his or other districts in his state, and by vigorous personal efforts shall aid in defeating the bill.

It is especially requested also that all of the national, state and county societies, at their next meeting, take action looking toward the same end. If regular meetings are not soon to be held, special meetings should be called. Correspondence is invited from all those who can give any aid.

The Committee on the District of Columbia consists of Senator James McMillan, Chairman, and Senators J. H. Gallinger, H. C. Hansborough, R. Redfield Proctor, J. C. Pritchard, Lucien Baker, C. P. Wetmore, C. J. Faulkner, Thomas S. Martin, Wm. M. Stewart and Richard Kenney. Personal letters may be addressed to them or to other senators. Petitions should be addressed to the Senate of the United States.

W. W. KEEN, M.D.
President AMERICAN MEDICAL ASSOCIATION.

HEADACHE.

The conscientious physician will never be satisfied with a diagnosis of headache. He knows that this condition is merely a symptomatic manifestation, and, strictly considered, never an independent disease. Careful inquiry and thorough investigation will disclose the fundamental disorder with certainty in many instances, and with probability in a further large number. In a small number the causative condition may be less apparent, or for a time may elude detection. As the diagnosis is the guide to treatment, the importance of recognizing the true state of affairs must be self-evident.

In our modern civilization there is, perhaps, no more potent single cause for headache than eye strain, and this may result from either refractive error or muscular imbalance. The recognition of this important fact is largely due to the intelligent observation, and its more or less general acceptance to the persistence of American physicians, and if it be wondered by a stranger why so many Americans, including children, use glasses, the explanation will be found in the progressiveness and the skill of our oculists, with resulting greater freedom from eye-strain headaches. These facts can not be too fully and too widely known. They were pointed out years ago by Drs. Weir Mitchell and Dyer, of Philadelphia, and they have since been amply confirmed and ably championed by a host of others. Intraocular disease, also, may give rise to headache, as, for instance, glaucoma and diseases of the retina, inflammatory, and otherwise.

Perhaps next in importance to eye strain as a cause of headache comes derangement of gastro-intestinal function, possibly acting through autointoxication. Headache of such origin has long been recognized, and has always received due consideration. Yet a common cause of headache is the disorder that for want of a better name we designate subacute rheumatism, but that probably has little to do with acute articular rheumatism, although the latter also may be attended with headache, which may be intense, and is probably toxic, involving the brain and its membranes, like the same manifestation attendant on other infectious diseases. Somewhat related to the headache of subacute rheumatism is that of neuralgic origin. This is sometimes wanting in the usual features of neuralgia, for instance, the circumscribed, linear or radiating pain of paroxysmal occurrence or exacerbation. Migraine is often of this variety, and is sometimes of hemicranic type. Some forms of migraine, also, are probably of cerebral origin, resulting from functional disturbance of the sensory cells of the cerebral cortex. It is this analogy that lends plausibility to the view that a certain relationship exists between migraine and epilepsy, the one being considered the sensory, the other the motor, expression of an explosive central neurosis.

Headache may further be of gouty or lithemic origin, or due to more nearly mechanical conditions, such as traumatism, cicatrices, disease of the scalp, the bone, the brain, and its meninges, inflammatory, hyperplastic or neoplastic, and disease of adjacent organs, as the nose and its accessory sinuses, the pharynx, the ear, and the teeth. It may be due to metallic poisoning, as with lead or mercury, to uremic or diabetic poisoning, to altered states of the blood or of the circulation, as anemia and hyperemia, local or general. Insolation may at times be a causative factor. Headache is sometimes observed in association with uterine and ovarian disease, but the connection is not clear. It may attend malarial infection also, and then assume a periodic character. The possibility of syphilis should never be overlooked in any case of headache. Neurasthenia is sometimes attended with headache, although a sense of fulness or of tension or of soreness is more common. The patients often speak of distress and misery in the head. Those who live in poorly ventilated rooms often suffer from headache, and those compelled to sleep in such rooms frequently exhibit morning headache especially.

To summarize briefly then, it may be said that headache is dependent on a variety of toxic or mechanical causes. The former may be introduced from without, as mercury and lead, be secondary to various infectious processes, or be generated within the body in consequence of deranged metabolism, as in uremia and diabetes. The mechanical causes include principally local disease, which may be of the most diverse kind. What is designated reflex headache is probably the result of a complexity of factors, of which the nervous (reflex) influence is but one.

This is not the place to dwell on the differential diagnosis of the various forms of headache, nor to discuss at length questions of treatment. It is sufficient here and now to have referred to many of the conditions from which such a common and at times troublesome symptom as headache may arise, and the offending cause, if carefully looked for, will seldom escape detection. As already intimated, the diagnosis once made, the treatment will suggest itself.

One caution, finally, should be uttered, namely, that headache may be the result of a variety of co-operating causes, one or another of which may predispose to the action of the others, and relief will be afforded only when all are corrected. Further, it is possible that a headache-habit may be established, when it will be necessary to break this up, after removal of the cause, before a cure will be complete. The susceptibility may, however, persist for a long time, and recurrences will then take place more readily than under ordinary conditions.

MIXED INFECTION IN PULMONARY TUBERCULOSIS.

The different opinions in regard to mixed infection in pulmonary tuberculosis and phthisis may be summarized under the following heads: 1. Mixed infection is without any special influence on the phthisical processes—etiologic unity (v. Leyden, Strauss, Frankel and others). 2. Phthisis is always the result of mixed infection—etiologic duality (Maragliano and others). 3. Severe manifestations of phthisis are always and wholly, or at least in part, the result of mixed infection (Koch, Ziegler, Weichselbaum, and others). Sata[1] has made careful bacteriologic and histologic examinations of a number—twenty-one—of suitable cases, in nearly all of which the clinical symptoms had been recorded, in order to establish to what extent the exudative and necrobiotic processes are modified by mixed infection, in what stage of pulmonary tuberculosis it usually sets in, if at all, and to what degree tubercle bacilli only may cause phthisical phenomena. Twelve cases of pronounced mixed infection were found; streptococci predominated in 6, in 4 pneumococci, in 1 staphylococci. A number of other bacteria were also isolated by cultural methods, such as diphtheroid bacilli, a form of which is given the special name of "Pseudodiphtheria bacillus pulmonalis" because of certain cultural peculiarities, the colon bacillus, capsulated bacilli, bacillus lactis aerogenes, etc., but not many of these were found in such connection with the tissue changes that they could be regarded as co-operative in inducing the lesions presented. Sata very properly lays great stress on the number and the situation of the different organisms in the lesions in his estimate of their pathogenic rôle, not being content with merely securing the germs in pure culture. The observations of Sata would have gained still further in value had he also bacteriologically studied the other organs and the blood of his cases.

[1] Ueber die Bedeutung der Mischinfektion bei der Lungenschrrendsucht. III, Supplement, Ziegler's Beiträge, 1899.

As it stands, the principal results of this investigation are that in pulmonary tuberculosis other bacteria than the tubercle bacillus may enter the lungs, localizing first in the contents of the existing cavities. While here their toxins may act not only on the surrounding tissues, but also on the whole body. The organisms of the secondary infection may cause a disintegration of the wall of the cavities and, either alone or in conjunction with the tubercle bacillus, they may induce a pneumonia in the vicinity. Through aspiration, more or less extensive bronchopneumonic foci may develop in the healthy parts of the lung. Toxemia and general infection may result. Mixed infection generally presents itself as a pneumonia of varying extent in the lesions of which streptococci, staphylococci, or pneumococci are found by histologic methods in large numbers, together with, but also without tubercle bacilli. It is important to note that mixed infection generally takes place after the disintegration of the purely tuberculous tissue begins. Only closed cavities remain free from other bacteria for a longer time; when communication with the external air is established, foreign bacteria quickly enter, but the real mixed infection does not begin until the bacteria invade the walls and cause necrosis and pneumonia in the vicinity, or at a distance due to aspiration.

The so-called phthisis is probably a pure tuberculosis only in the beginning; when advanced there is mixed infection and a large part of the destructive phthisical changes are the result thereof. There is also good reason to believe that the high fever in phthisis is the result of mixed infection.

Sata was also able to show some of the evil influences of mixed infection by means of suitable animal experiments. Occasionally results were obtained which indicated that mixed infection does not always aggravate phthisical processes, but by hindering the growth of the tubercle bacillus changes are induced which favor local healing. While Sata would regard the aspiration bronchopneumonia in phthisis as most frequently a mixed process, due to the distribution of the contents of the cavities, which contain tubercle bacilli as well as other organisms, Prudden,[2] from experimental studies, holds that in the case of rabbits' lungs, which are already the seat of an extensive tuberculous consolidation and necrosis, the intratracheal injection of cultures of streptococcus pyogenes is followed not by an "increased amount of exudative pneumonia, but, in many cases, by the extensive development of cavities."

There is, taking it all in all, good evidence to justify the reversal of Niemeyer's dictum: "that the greatest danger for the most phthisical is that they may become tuberculous," to the effect that the greatest danger for the tuberculous is that they may become phthisical, that is that mixed infection may take place. This proposition probably merits more attention than it is receiving from the preventive and therapeutic standpoint.

[2] Concurrent Infections and the Formations of Cavities in Acute Pulmonary Tuberculosis: An Experimental Study. N. Y. Med. Jour., July 1, 1894.

RED COLORATION OF FECES SIMULATING THE PRESENCE OF BLOOD.

Blood may appear in the stools under several conditions, such as the presence of hemorrhoids, of ulceration, of the hemorrhagic diathesis, the rupture of an aneurysm, etc., and while the source of the hemorrhage may at times be obscure, the recognition of the blood is as a rule not difficult. A possible source of error is, however, pointed out by Carter[1], who reports three cases, one of chronic valvular disease, febrile toxemia and acute cystitis, one of typhoid fever, and one of acute pneumonia, in which the intestinal discharges, while in general golden brown in color, presented streaks of a bright-red color, which became intensified on standing and exposure to air. Careful examination, however, proved the discoloration not to be due to blood, nor to biliverdin or bilirubin, but to a substance closely related to stercobilin, the normal coloring matter in feces.

TONSILS AS PORTALS OF INFECTION.

There is increasing reason to believe that the tonsils are more commonly than has hitherto been thought the portals for the entrance of various infections. That this should be so is favored by the situation of these organs, their irregularity of surface, and their adenoid constitution. Of their own susceptibility to disease, the frequency of quinsy and allied disorders, particularly in early life, is abundant evidence. There are now on record a not inconsiderable number of cases in which tonsillitis has been attended with or followed by various complications and sequelæ. Some of these were discussed at a recent meeting of the N. Y. County Medical Association, when several cases of endocarditis were attributed to infection through the tonsil[2]. It is quite generally accepted that rheumatism may arise in this way, and, if rheumatism, then endocarditis. The relation is rather difficult of establishment, but the detection of the same exciting agent in the tonsils and in the other morbid lesions should be considered *prima facie* evidence, though perhaps not conclusive. In any event, no harm, but much good, can come from greater attention to a possible source of danger, and it will be a wise precaution to treat vigorously all diseases of the tonsils when they exist, and to use all proper prophylactic measures to prevent infection.

MULTIPLE BENIGN SARCOIDS OF THE SKIN.

Boeck[3] describes a unique case, which he designates as multiple benign skin-sarcoid, in a policeman, 36 years old. Some enlargement of various groups of superficial lymphatic glands, a moderate leucocytosis and an eruption of smaller and larger hard nodules in the skin of the head and face, and on the extensor surfaces of the trunk and the extermities were observed. The nodules varied in size from that of a hemp seed to a bean, and were irregular in form; they involved all parts of the skin, being movable with it. At first the nodules were pale red, then they became bluish-livid, finally yellowish or brownish. The growth of the tumors was extremely slow and extended over years; in the older the central part becomes atrophic and shrunken; eventually the

[1] Lancet, Nov. 25, 1899, p. 1432; Journal, Dec. 16, 1899, p.1544.
[2] Emil Mayer: Journal, Dec. 9, 1899, p. 1491.
[3] Norsk Magazin f. Lägevidenskaben, 1899, lx, 321.

growths disappeared wholly—under the use of arsenic and iron—leaving an evident reduction of substance in the skin. Boeck compares his case, and he recalls having seen two more like it, with the disease described by Hutchinson as "Mortimer's malady," in which, however, there are no glandular enlargements and no eruptions in the face. The histologic appearances in Boeck's case were also peculiar. It concerns a perivascular connective tissue growth composed of epithelioid cells and a few giant cells of the sarcomatous type; all elastic elements disappear in the tumor areas; the tumor tissue degenerates rapidly, however, and there is formed a network of branching connective tissue cells. Hence the tumors appear related to the sarcomas, although the pseudoleucemic growths in the skin described by Arning and by Max Joseph are also recalled. Boeck finds it not unlikely that future observations may show the disease he describes to be in some relation to pseudoleucemia.

"DIVINE HEALING" HOMICIDE.

A "divine healer" in Montana claims to have, by silent prayer, caused the death of one who was arguing with him and whose demonstrations, he claims, had become threatening. This may be taken as an additional argument for the regulation, or rather suppression, of these irregular practitioners. The coroner's verdict, it is true, found that the decease was due to heart disease, but the reverend healer still claims that it was his influence with the Deity that caused it. If "divine healers" in Montana are going to be thus homicidal in their claims, it is time to look out for them. An indictment that so and so "did maliciously and feloniously assault, slay, injure, kill, murder," etc., with "silent prayer," stated with all the tautology and surplusage of the law, would seem to be next in order. At least, such an indictment ought to be valid before some of our judges who have adopted and are advocating Dowieism, "Christian Science," and other kindred humbugs.

SUPERSTITION AND THE PLAGUE.

An interesting fact to zoöphiles and vegetarians will perhaps be found in the plague records of India. The Hindoos, as is well known, are largely vegetarians, and their reverence for animal life is excessive. Like zoöphiles elsewhere, their regard for human life is altogether a secondary matter. Not only did these vegetarians furnish the main food of the pestilence, their lesser resisting power in all probability assisting their unsanitary surroundings, but they actively opposed the necessary measures to prevent its spread. Whatever has been done in the way of sanitation was resisted and the infected and infection-carrying vermin were protected to the limits of their ability. "All attempts to capture the rats were fiercely opposed," says an official report, "and picking up a few sick pigeons almost caused a riot." If the vegetarian and zoöphilist superstitions of the Asiatics did not exist, the plague would have had less hold, and could have been more easily controlled.

A NOVEL THEORY OF BALDNESS.

The cause of masculine baldness has been the subject of much speculation, and a contributor in this issue of the JOURNAL offers what is, to us at least, a new theory. He assumes that the masculine thorax is less mobile than is that of women, and hence there is at the apical portion of the lungs a greater stagnation of residual air. This, he holds, is the more likely to become impure and to inadequately fulfil its functions of oxygenating the blood. Thus toxins left in the imperfectly oxygenated blood find their point of least resistance in the poorly nourished scalp lying over the occipito-frontal aponeurosis; hence, the baldness. The author's theory rests on certain apparently unconscious assumptions on his part: 1, that baldness is a purely masculine defect, and 2, if so, to account for it we have to find only one possible masculine pathologic peculiarity. Alopecia is not fashionable in the female sex, and if it exists it is quite certain to be concealed, hence we can not say how far his first assumption is valid. From the prosperity of the false hair trade one might legitimately doubt its universal correctness. As to the second assumption, it appears to involve a logical fallacy, a sort of *cum hoc, ergo propter hoc* mode of reasoning, even admitting that its premises are correct. There may be a little larger proportion of residual air in the apex of the male lung, and there often is a lack of residual hair on the male scalp, but the association between the two would hardly occur to us unless it might be from some ultra-Anglican mispronunciation. The author's arguments do not seem to us to establish it. As he says, the experience of one investigator is generally insufficient to establish a theory. The results of his treatment as reported by him are, however, encouraging, and it may be he has suggested a practical fact, though his reasons given for it may not be wholly accepted.

TREATMENT OF CHRONIC ARTICULAR DISEASE BY MEANS OF SUPERHEATED AIR.

For a time after its modern introduction, a few years ago, the treatment of various chronic diseases of the joints by means of hot air enjoyed quite a considerable vogue. As time went on, however, the novelty subsided, and the method has almost fallen into innocuous desuetude. A number of persistent investigators have, however, continued its employment with highly satisfactory results, and the report of the observations, with the exhibition of the patient, made at a recent meeting of the Philadelphia County Medical Society, by Dr. Henry Tucker, should at least revive interest in the subject. The patient was a young woman, perhaps 25 years of age, who presented marked and wide-spread lesions of rheumatoid arthritis, and in whom improvement, that can in moderation be designated "remarkable," was effected after three months' treatment, forty-five exposures in all, at temperatures of 240 to 270 F., being made. It is not alone interesting that the patient had her ability to walk about restored, and free movement of the digits, but it is especially important from a practical point of view that improvement did not manifest itself until after the twelfth treatment. In fact, the first exposures were attended with an aggravation of the local symptoms, and if the treatment had been suspended at this point a failure instead of success would have been the result. As Dr. Tucker pointed out, this is the common experience, and it therefore behooves those who use this mode of treatment which at one time promised to be a boon to sufferers from several forms of chronic disease of the joints, not

to relax their efforts if relief does not attend or follow the first exposures, but they should persist until they either obtain the desired result or convince themselves that the particular case in hand is insusceptible to the influence of hot air treatment. While we think it doubtful whether well-developed cases of rheumatoid arthritis can be finally cured by this means, still such measure of improvement as was effected in the case under consideration is worthy of all of the time and effort expended on it, even should the treatment require continuation for years.

MILITARY PROJECTILES.

The Hague convention established certain rules regarding the use of bullets, binding on the signatory powers, but it acted on what was then imperfect knowledge, while there is yet much to be learned in regard to the effects of military projectiles. Any experimental investigation that throws light on the subject is therefore welcome, as it is capable of being even more instructive than actual military experience. Each source of knowledge has its advantages, and the present happenings in widely different portions of the globe are furnishing us expensive practical observations of modern gunshot injuries in war. In the *Lancet* of December 2, Drs. Arthur Keith and Hugh M. Rigby report a series of experiments with the English service bullets as compared with the Mauser projectiles, the ones in use by the Boers and Filipinos, and also the army revolver projectiles, the British Webley and the Mauser. They point out that there are two, possibly three, factors that control the destructive power of a bullet: 1, the momentum, and 2, its expansibility on contact. The contingent third factor is its spin on its own axis, which undoubtedly causes some of the debris found in wounds. They experimented on a cadaver specially prepared to afford sections, and on soap, which is a substance well suited to show the path of the projectile, as distinct from its explosive effects on enclosed fluids and its shattering action on brittle substances, like bone. Taking the Mauser as the unit, they find that the British service bullet, with its velocity and greater momentum, is 70 per cent. more destructive, while the Mark IV, or hollow-pointed, and the Dumdum are respectively twice and nearly six times as destructive in their effects. Cadaver experiments bore out these results very closely as regards mere flesh wounds, but when any of these bullets meets a bone, its destroying energy is multiplied, as is shown by their diagrams. The explosive effects on cavities—not necessarily closed ones—with fluid contents were also noted by experiments with plaster of Paris before it had hardened and was practically of the consistency of the brain. This was placed in skulls or in boxes, and the effect noted. The authors found that in this respect and in their bone-shattering qualities the open-nosed bullets like the Dum Dum were effective. The ratio in destructive effects on soft tissues, counting the Mauser as unity, are for the English service bullet, Mark II, 1.7; Mark IV, 2; and the Dumdum, 5.4. The experiments are interesting and valuable as showing the comparative effects of the several projectiles at short range, but do not cover the possibilities of wounds made at longer range. They conclusively show that the Mauser is a comparatively ineffective weapon, a fact already demonstrated in actual military surgery. The authors call attention, however, to the fact that its projectile is very easily converted into a Dumdum, thus increasing its destructive power fivefold.

WHOOPING-COUGH AND RICKETS.

The etiologic relation between precedent whooping-cough and gastrointestinal disease and succeeding rickets, as observed by Lowman and published in the JOURNAL[1], is worthy of more than passing attention. The effects of rickets are more often observed in America than the disease itself, for the reason that physicians are not commonly on the lookout for it, and that it occurs insidiously and often without the cardinal symptoms. The cases reported by Lowman were all in well-to-do families and among properly fed and housed infants. It was perfectly clear that the disease was directly due to the depressing effects of the prolonged cough, and to the disturbance of nutrition that accompanies whooping-cough, and in some cases to the limitation in diet made necessary by disease of the stomach and intestines. Attention should be directed to this important and serious possible sequel of whooping-cough and of intestinal indigestion. The relation has not heretofore been widely recognized, nor has the possibility of the occurrence of rickets under good hygienic conditions been sufficiently realized. The treatment of the disease by phosphorus, fresh air, sunshine and carefully selected diet is so easy and so efficient, once the condition is recognized, and the sequels to be avoided are so terrible and so enduring, that every physician must be on the alert to perceive the conditions favoring the supervention of rickets on the depraved nutrition accompanying some acute diseases of infancy. Also, as was pointed out in the paper in question, the malign influence, in some cases, of the starchy artificial infant-foods can not be overlooked as a predisposing factor in the production of rickets. Little light can be thrown on the intimate disturbances of metabolism that constitute rickets, but enough is positively known of the circumstances under which it arises to be certain that a diet poor in proteids, fats and salt, along with lack of pure air and sunshine, favors its production. That much is well known, and the new fact to be learned is simply that those favoring dietetic conditions that occur in whooping-cough or other depressing malady may determine an attack of rickets in hygienic surroundings that otherwise are of the very best.

SCHOOL TEACHERS AND TUBERCULOSIS.

There is a movement on foot in one of our western cities to remove every teacher from the public schools, who is affected with tuberculosis. It seems to have the almost universal endorsement of the local profession, which is apparently in accord with the most recent doctrines or theories of the contagiousness of consumption. Some go further, not unreasonably, and propose to weed out all infected children, even if it is necessary to furnish separate schools for them. There is no doubt that an infected pupil may be a much greater danger to the rest than a consumptive teacher, who is more

[1] JOURNAL, November 25, p. 1358.

amenable to sanitary regulations, and does not as a rule have to come into such close contact with her pupils as would render her personally dangerous to them. The only real danger from a consumptive teacher is room infection, assuming that he or she takes reasonable care to observe ordinary sanitary precautions. "A teacher who carelessly expectorates on the floor," says one of the physicians interviewed, "is a menace to the life of every scholar in the school." Such a person, we would say, is unfit to be a teacher, whether consumptive or not. The chance of infection of well lighted and ventilated school rooms by any decent and intelligent adult consumptive ought to be slight, but there are thousands of chances for it to occur to a certain extent by careless children, many of whom it is reasonably certain carry with them the germs of disease. The amount of danger thus incurred is a question we would not care to decide, but it is the principal danger that exists or ought to exist. Whether it is an altogether unavoidable one, without the use of the most rigid measures of inspection and isolation, is another difficult question, which ought to be considered.

ELASTIC TISSUE UNDER NORMAL AND PATHOLOGIC CONDITIONS.

Weigert's recent specific stain for elastic fibers has rendered simple and easy the study of this constituent of various organs. Melnikow Raswedenkow[1] has made extended investigations of the elastic tissue under both normal and abnormal conditions. In normal organs the blood-vessels are most richly and constantly endowed with elastic elements which appear in early embryonal life, and on account of their elasticity and resistance they efficiently support the contractile tissue and aid it to carry out its mechanical functions. The lungs, which are constantly in motion are very rich in elastic fibers, as is also the spleen, which has the power to change its volume; the same holds true of the diaphragm, the tongue, the large lymph vessels and the intestinal tract. The glandular parts of the liver, the pancreas, etc., organs which remain quiet, are comparatively poor in elastic elements. The amount of elastic tissue increases with age; in the physiologic atrophy of old age the elastic fibers increase in inverse proportion as the specific cells disappear. This is to be interpreted as an adaptive process calculated to maintain the equilibrium of the remaining cells under the changing mechanical conditions. In the walls of the blood-vessels the increased amount of elastic tissue in old age tends to maintain the pressure of the blood at a fixed height as the contractility of the muscular coat diminishes. Under pathologic conditions elastic tissue is characterized on the one hand by its resistance to morbid agents, and on the other by a tendency to increase in amount, especially under such conditions as make this increase a useful one. Elastic tissue is easily destroyed in the suppurative processes, when it suffers a fate similar to that of all other tissue elements. In splenic infarcts the elastic fibers disappear first in the zone of leucocytic infiltration. In passive congestion elastic tissue increases in amount; here it is calculated to restore the disturbed circulation. In the functionless scars which replace destroyed tissue, as in tuberculosis of the lungs, elastic fibers may be completely absent. Atrophy of glandular organs, like the liver and kidney, in which fluids circulate, is associated with the new production of elastic elements. Tumors are generally poor in elastic tissue; they are useless structures, and hence there is no special necessity for elastic fibers. But in the sclerotic processes in the liver, kidney and myocardium the elastic tissue proliferates and tends to maintain the most desirable mechanical conditions. Thus in the heart wall elastic fibers are better calculated to prevent cardiac aneurysm as the consequence of a local fibrosis than pure connective tissue. In this case the adaptive nature of the increase in elastic material is clearly manifest. It will thus be seen that elastic tissue, under normal as well as pathologic conditions, serves as a support of the specific elements of the organs and promotes the performance of their normal functions.

[1] Ziegler's Beiträge, 1899, xxvi, 546.

Medical News.

IN DENVER, Colo., the National Home for Consumptives was dedicated December 10.

AT A cost of $25,000, a new hospital—St. Anthony's—has been opened in Oklahoma City, O. T.

DR. FRANK C. AUTEN has tendered his resignation as superintendent of the Illinois Hospital for Criminal Insane, at Chester.

THE NEW Chester County (Pa.) Insane Asylum has been completed. The cost of the building and furnishings was $120,000.

THE BOARD of Health of Wilmington, Del., has passed an ordinance prohibiting public funerals of patients who have died of diphtheria.

DRS. CHARLES ROGERS and Charles Clark, assistant superintendents of the Massillon (Ohio) State Hospital for the Insane, have resigned.

AN INSTITUTE for the special study of malaria has been established as a department of the St. Petersburg Institute of Experimental Medicine.

IT IS announced that an international antituberculosis congress is being organized, to convene at Naples next spring, with Baccelli for president.

A PHYSICIAN in McLean, N. Y., has been awarded $900 in a suit for $10,000, for medical services rendered a reputed millionaire of Cortland, N. Y.

THE CHIEF of the Boer military medical department is Dr. M. Reinhart, a German and graduate of Munich, author of numerous contributions to the German medical press.

PROF. W. W. KEEN, Philadelphia, president of the AMERICAN MEDICAL ASSOCIATION, will deliver the graduates address at the commencement exercises at Rush Medical College, Chicago, July 1.

WE LEARN that the *Southwestern Medical Record*, Houston, Texas, has consolidated with the *Texas Medical News*, Austin. This makes the fourth journal that has consolidated with the *News* since January, 1898.

ON DECEMBER 12, a jury in York, Pa., awarded damages of $1000 against two physicians of that city. It was alleged that a fractured limb was bandaged so tightly that gangrene supervened, and amputation was necessary.

THREE prominent officials at Constantinople have

been banished on account of a conspiracy against the sultan, which was discovered and revealed, it is said, by "Dr. M., the sultan's private physician and medical attendant of the German embassy."

THE STATUE of the late Dr. William Pepper, which occupies a prominent site on the grounds of the Museum of Archeology, Philadelphia, was unveiled on December 20, the date which marks the opening of this new building of the University of Pennsylvania.

A GENERAL vaccination and revaccination has been urged in a circular issued by the Kentucky State Board of Health, December 12. More than 2000 cases of smallpox have occurred in sixty-two of the 119 counties of Kentucky during the past two years.

THE ASSISTANT professor of obstetrics and gynecology at Rio Janeiro, Dr. A. R. Baptista, has been suspended for three months by decree of the *Ministro do justicia e negocios int.*, on account of neglect in keeping the records of the clinic and admitting outsiders to it without permission.

THE BERLIN university has published, by private subscription, the complete catalogue of the various theses sustained before it from 1810 to 1885, about 9690 in all, of which 7332 are medical. Strasburg's catalogue contains 576 titles, and Bonn's 2909, both published at the expense of the university.

SOME OF our exchanges in Belgium have entered on a campaign to limit the professional activity of professors in medical colleges to the education of medical generations, laboratory and research work, and leave patients and practice to the general practitioners; *à nous, praticiens, la clientèle,* is their watchword.

THE MEDICAL Institute of St. Petersburg will very soon erect a laboratory for the treatment of pest patients and for the manufacture of antiplague serum. The building will be located at Cronstadt and will be so provided that it can be surrounded by water at a moment's notice. Communication will be effected with Cronstadt by means of steam launches.

CUBA is to have a national medical congress next year. V. B. Valdés is president. The Cuban Mutual Help Association recently celebrated its twentieth anniversary with a literary and musical entertainment exclusively for physicians and their families. It proved such an interesting reunion that it will be made a regular annual feature of the Association henceforth.

SENATOR SPOONER, December 13, introduced a bill in Congress for the establishment of a commission of public health, to be composed of a commissioner and a representative from each state and territorial board of health, the surgeon-general of the army and navy, the supervising surgeon-general of the marine-hospital service, to be known as the "National Commission of Public Health," and to be a bureau in the Treasury Department.

THE CASE of the People vs. Dr. E. L. Shurley, Detroit, Mich., was finally settled in the circuit court, December 14. The judge dismissed the case, which was an action brought to recover a $50 penalty for failure of the defendant to report a case of pulmonary tuberculosis, previously commented on in our editorial pages. After hearing the testimony in the case, he took the ground that the statute does not specially mention consumption among the list of cases required to be reported, and said: "Whether consumption shall be classed as contagious is still a problem." Prosecuting Attorney Frazer says the decision will be accepted and no appeal made.

D. OSIRIS has endowed the Institut de France with funds for a triennial prize of $20,000, to be awarded for the most noteworthy work or discovery made during each three years in science, letters, art or anything that can serve the public welfare, "especially in the branches of the medical sciences." It can only be awarded to a native of France, except when an international exposition coincides with the date of its bestowal or the year or two following. Osiris has already placed in the hands of the syndicate of the French press, $20,000 to be awarded as a single prize for the most beautiful or the most useful work to be found at the coming exposition of 1900.

ACCORDING to *El Progreso Médico,* Havana, the Anglo-Saxon race prides itself on its obedience to the law, "but in changing its medium it seems to have adopted customs contrary to its usual habits." This is in reference to the physicians from the United States who have settled in Cuba without complying with the legal requirements for practice. It also urgently appeals to the authorities to revoke the licenses granted by the Spanish to many charlatans and adventurers who are now practising in Cuba as legitimate members of the profession, under the shelter of the Spanish laws. It says that every practitioner should be required to present evidence of his ability and professional training, or be otherwise stricken from the list.

A FEW WEEKS ago the competitive examinations for the positions of internes occurred at Paris, with 333 competitors out of 580 candidates for the thirty vacancies. There were eighty vacancies last year. All the papers had been examined except eighty-eight, and these were in locked and sealed boxes at the Hôpital Beaujon, when one morning it was found that the room had been entered during the night, by the removal of a panel in the door; with a thermocautery, a hole had been drilled in each box and a quantity of nitric acid poured in, reducing the contents to a pulp. There is no clue to the perpetrators of the outrage, which annuls the present competition and renders another necessary, two or three months late. There have been rumors current for some time that these competitions were unfairly conducted and favoritism shown.

PRIZE IN MILITARY SURGERY.—A gold medal, valued at $100, the design for which has already been drawn, will be offered by the Association of Military Surgeons of the United States, for the best essay on military surgery. The donor is Dr. Enno Sander, St. Louis, Mo., a member of the AMERICAN MEDICAL ASSOCIATION. Major A. C. Girard, the Presidio, San Francisco, Cal., is the chairman of the prize committee, to whom letters should be addressed for further information.

MEDICAL EXAMINATION PAPERS IN PENNSYLVANIA.—Owing to the recent exposures in regard to the supposed fraud committed by the men who went before the last session of the Medical Examining Board of Pennsylvania, the Board has been making an investigation. It has decided that the state printer should no longer be permitted to print the papers. By an agreement made the presidents of each board will hereafter have entire charge of the questions from the time they are formulated until the time of examination. About thirty clues were followed, as a rule, without result. It was learned, however, that many so-called examination papers had been purchased by the students, and subsequently proved to be bogus. A new system of examination will hereafter be adopted, which provides that only one list of questions shall be printed; this is to be dictated to the students at the time of examination.

New Orleans.

THERE IS developing, in the city council, opposition to the meat inspection law on the ground that it is a source of expense to the city instead of increasing its revenue. Surely this is a penny-wise and pound-foolish policy.

PLAGUE QUESTIONS.

CONCERNING the *Willowdene*, arrived from plague-infected Santos, the Cotton Exchange has withdrawn its protest against admitting the vessel, expressing its confidence in the ability of the State Board of Health to properly safeguard the interests of the city. It is interesting to note a decision of the board's attorney, to the effect that it has no right to deny admission to the vessel, its powers being limited by law to its detention and disinfection. This decision is in sharp contrast with the action of the health authorities of Galveston and of New York City, who have assumed the authority to deny such admission.

Cincinnati.

DR. J. M. CRAWFORD, late consul to Russia, gave a lecture on the resources of the country, December 13, in this city.

DR. L. C. CARR, formerly of this city, now brigade surgeon, U. S. Vols., is seriously ill in Cuba, with pernicious malarial fever.

DR. E. GUSTAVE ZINKE is to lecture on "Uterus, Child and Placenta," before the Academy of Medicine, Springfield, Ohio, during the holidays.

AT THE meeting of the Board of Trustees of the Cincinnati Hospital, December 9, the resignations of Drs. C. R. Holmes and S. C. Ayers, from the visiting staff, were accepted, and they were appointed consulting ophthalmologists.

THE HYGEIA Medical College of Cincinnati, whose certificates to graduates the State Board of Medical Examiners refused to recognize, will have to close its doors, the court having sustained the Board and dismissed the Hygeia's petition on the ground that it discloses no cause of action.

Baltimore.

DR. CHARLES D. PARFITT, one of the resident physicians at the Johns Hopkins Hospital, has resigned, and will resume practice in Toronto.

THE HOME for Incurables has received a bequest of $5000, and the Union Protestant Infirmary $2000, by the will of the late Mrs. Elizabeth E. Bose, of this city.

DR. AND MRS. W. OSLER gave a large reception to the members of the Philippine party—Professor Flexner, Barker and others—at the Johns Hopkins Medical School, on the evening of the 16th.

THE BALTIMORE Medical College tendered its football team a theater party, recently, the team having defeated all the colleges with which it has played. A supper was served after the performance.

DR. HENRY C. SHIPLEY, recently convicted in the Carroll County Court, of forgery, has been pardoned by the governor, the application having been signed by the judge and attorneys in the case.

DR. CLARK, superintendent of the Second Hospital for the Insane, advocates the necessity of amending the lunacy law of Maryland, and favors a law for this state similar to that of New Jersey.

AT THE meeting of the Johns Hopkins Hospital Historical Club, December 11, Dr. Welch gave a masterly address on "The Arabic Period in the History of Medicine," which will be continued at the January meeting. Dr. McCrae read a paper on "Benjamin Jesty, an Early Vaccinator."

Chicago.

PLANS FOR installing a protestant minister as a permanent chaplain in the Cook County Hospital are being considered by Christian Endeavor workers.

A BALL—the German-American Charity—at the Auditorium, December 17, netted $15,000 for various charitable institutions of the city.

DR. GEORGE W. WEBSTER has been endorsed by the Chicago Medical Society as its representative on the Illinois State Board of Health.

THE COMMITTEE for the erection of a hospital for consumptives has added $1500 to the fund during the past week.

AT A charity ball, December 15, the committee of the Cathedral of the Holy Name netted $1000 for their endowed room at Mercy Hospital.

PROF. N. SENN delivered the annual address before the Cleveland (Ohio) Academy of Medicine, December 22, on "Fractures of the Skull."

SMALLPOX.

A case was discovered in Palatine, Ill., the 19th, and promptly isolated. The patient had been exposed while in Moline, Ill. The Health Department is investigating a rumor that a case from Dixon, Ill., was imported to Chicago and exposed a number of persons in a department store. It was reported that the sufferer was sent to Dixon after being taken ill.

MORTALITY STATISTICS.

The mortality for the past week was 481, being an increase of 65 over the number of deaths recorded during the preceding week, and 39 more than the record of the corresponding week of 1898. This increase is principally due to the severity of the weather, as is shown by the increased mortality, from the acute pulmonary affections, bronchitis and pneumonia, these two diseases showing an increase of about 30 per cent. over the preceding week. The relative proportion of deaths, males to females, shows an increased number of deaths among the latter sex, due to the larger number exposed by reason of "Christmas-shopping."

Philadelphia.

A SILVER medal and diploma were awarded William R. Warner & Co., by the late National Export Exposition.

THE NEW gymnasium of the Jefferson Medical College was dedicated December 16. The recently formed athletic association held its first inter-class contest on that day, and much enthusiasm was shown by the students of the different years.

DECEMBER 15, a Bohemian tea was given at the Hotel Walton, for the benefit of the students' reading room and library of the Jefferson Medical College.

DURING THE past week the faculty, with the students of the senior class of Jefferson Medical College, were given a reception at the Art Club, by Dr. George E. de Schweinitz.

FOR THE Bureau of Correction, Councils has allowed one resident physician at a salary of $1050, and one new assistant matron at a salary of $360 a year.

THERE ARE now in the Philadelphia Hospital (Blockley), 3826 persons, 1005 in the hospital proper, 1386 in the department for the insane, 1218 in the out-wards, and 217 children on trial in homes.

THE FOLLOWING sums have been distributed by the executors of the estate of Henry Pfander, deceased: Jewish Foster Home and Orphan Asylum, $1,764.44; Jewish Hospital Association, $1,764.44; Jewish Maternity Association of Philadelphia, $882.22; Society of Hebrew Charities of Philadelphia, $882.22.

WILL'S EYE HOSPITAL.

In order to provide for a slightly larger income for the constantly increasing number of patients now being treated by the Will's Eye Hospital, the Board of City Trusts will petition the court to transfer to the hospital certain small estates the income of which has for some time been diverted to certain charitable purposes. By this means it is hoped that a larger amount of material may be obtained and the hospital increase its good work.

MORTALITY STATISTICS.

The number of deaths during the past week was 445, an increase of 33 over those of last week and a decrease of 36 from the corresponding period of last year. The deaths from all causes were as follows: apoplexy, 16; nephritis, 32; cancer, 16; tuberculosis, 46; diabetes, 4; heart disease, 33; influenza, 4; septicemia, 7; suicide, 3; sarcoma, 2. Infectious diseases: diphtheria, 154 cases and 26 deaths; scarlet fever, 65 cases and 2 deaths; typhoid fever, 32 and 3 deaths.

HOSPITAL FOR CONTAGIOUS DISEASES.

The movement set on foot several days ago toward establishing a pay hospital for contagious diseases seems to have assumed definite shape. At the meeting of the Board of Directors, December 16, the following officers were nominated:

president, Judge William N. Ashman; vice-president, Edmund C. Hammersly; recording secretary, Dr. Clara T. Dercum; corresponding secretary, Dr. Edwin Rosenthal; treasurer, Dr. J. Madison Taylor; directors for three years, Dr. Frederick P. Henry, Mrs. Olive Pond Amies, Dr. George M. Gould, Dr. James Tyson, and Mrs. George M. Swett; for two years, George D. Widener. The committee on site was empowered to act at once and to seek measures so that work should begin on the building.

New York.

A REPORT comes from Kensico, in the adjoining county of Westchester, to the effect that a stage-driver and his whole family were made sick by drinking the water from a well into which some one had dumped a quantity of Paris green.

FIVE SURGEONS of the U. S. Marine-Hospital Service have left this port on their way to take stations at American consulates in European ports. This is a part of a new plan by which all vessels clearing for American ports are required to have a bill of health indorsed by one of these surgeons.

THE VARIOUS organizations of the druggists have agreed on the form of a bill to be presented at the coming session of the legislature, providing for shorter hours for drug clerks. It is said to be free from certain defects which led the governor to veto a somewhat similar one last session.

HOSPITAL INCORPORATION REFUSED.

The State Board of Charities, after a careful investigation, has disapproved the incorporation of the Emanuel Hospital and Dispensary of New York City. Many protests are received against the establishment of the institution, and the principal ground upon which the application was denied was the fact that the poor among the Jewish population in the district for which it was designed are already provided with ample facilities for charitable medical treatment.

CROTON WATER-SUPPLY.

For many months past there has been a good deal of complaint regarding the dirtiness of the Croton water-supply. The Board of Health has made repeated examinations of the city water, at short intervals, and while it maintains and has so reported officially to the mayor, that no pathogenic germs have been found in the water, it is recommended that a system of filtration be introduced. Dr. Charles F. Roberts, the sanitary superintendent, says that the sanitary condition of the water-shed is good, but the water is unpalatable, and causes much trouble in the laundry.

GLANDERS.

In the upper section of the city horse owners have been worried during the past week because of the outbreak of glanders in a large boarding stable. It is known that at least eighteen horses have died from the disease in one stable, and the fact that the human being may become infected by contact with the discharges has made the hostlers very anxious. Prompt measures were taken by the authorities to control the disease, as soon as it was reported, but as it occurred for the most part among the horses of storekeepers, one can not say yet how far the infection may have been carried.

PRIZES FOR ARCHITECTS.

The Tenement House Committee of the Charity Organization Society has offered four prizes, ranging from $500 to $100, to architects, for plans for improved city tenements. The first prize is for houses and lots of 50 by 100 ft., the second those 75 by 100, and the third for houses and lots of 100 by 100 feet, and a special prize of $100 is offered for the best plan for a house on a lot 25 by 100 feet. The plans submitted are to be exhibited in connection with the tenement house exhibitions, to be held this winter in New York and other cities. It is rather a curious fact that on the jury of award, which consists of seven members, there is not a single physician.

LEGAL LIABILITY OF A MUNICIPALITY FOR DISEASE.

One Margaret Hughes brought suit against Auburn, N. Y., for damages for the death of her daughter, claiming that her demise was the result of disease caused by a defective sewer adjoining the house. The court of appeals recently granted a new trial, the first one having ended in a verdict for the defendant. Judge O'Brien delivered the opinion, in which all his associates concurred with the exception of Judges Gray and Bartlett. He holds that the statute which permits actions for damages by reason of death caused by the wrongful act, neglect or default of another, has no application in such a case, and that no action against a municipality can be maintained by an individual for damages for sickness caused by the neglect of public officers to observe sanitary laws.

HARLEM HOSPITAL.

Although the Harlem Hospital, one of those under the care of the Department of Charities, is called on to do an immense amount of work, the authorities do not seem disposed to furnish better facilities. (See JOURNAL, December 16, p. 1562.) It has long been known that the hospital has outgrown its present quarters, yet for some reason—politics has been strongly hinted at—nothing is done, and the physicians and surgeons of the hospital are compelled year after year to do their work under a great disadvantage. Last week Dr. Dudley brought the matter to the attention of the Harlem Board of Commerce, and the board unanimously adopted a resolution, stating it to be the opinion of that body that the legislature should authorize the issue of bonds to the amount of $500,000 or more for immediate use in securing a new hospital building.

COMBINATION OF CHARITIES.

The recent proposition to combine the interests of the many charities of the city, already noted in the JOURNAL, turns out to be the revival of an old idea, but it seems to have met with more encouragement than heretofore. There are many difficulties in the way of its accomplishment, however, not the least of which is the fact that a large number of the hospitals are endowed institutions, and these endowments having been given for a specific purpose, legal complications would be almost sure to arise if these sums were made a part of a common fund. Mr. J. Harsen Rhoades, a gentleman well known for his knowledge of the workings of organized charity in this city, is mentioned as one of those who express themselves as believing that the plan is not only desirable, but feasible. It is thought that one of the great advantages of a consolidation of charities would be the ability to better control the dispensary abuses. As there are no less than 104 dispensaries, giving practically free medical treatment to one-third of the population of Greater New York, this result alone would offset certain disadvantages. But perhaps the most cogent argument in favor of this combination is that contributions to charity could be made more intelligently, and the donor would not be annoyed, as now, by constant requests for money from a large number of institutions, all clamoring for notice.

Canada.

(From Our Regular Correspondent.)

TORONTO, Dec. 16, 1899.

TORONTO WESTERN HOSPITAL.

Ever since the report on medical charity in the hospitals here, the Western has come in for adverse criticism. The reasons assigned for the difference in the average cost per patient at this hospital, in comparison with the others, viz.: $21.50 as against $15 at the General per charity patient, were that there were either less rapid cures in the former or else the patients were kept in the institution some time after they were well. Dr. Price-Brown, the laryngologist of the Western, in its defense, says, there is need for such a hospital at the district located, that since its opening not a single month has passed but applicants had to be refused for want of room, as many as thirty per month, for the last two years. The Doctor backs up his contentions for the Western with statistics taken from the Government reports for 1897 and 1898. Recently the opening of the new hospital took place, the building having been thoroughly remodelled.

MEDICAL SERVICE OF THE CANADIAN MILITIA.

One fact that appeals most intensely to those members of the profession who are also in the army and who have given some thought to medical military matters, is that at the head of that department of our government is a gentleman who had attained considerable eminence in medicine before embarking on the sea of politics—Dr. Borden. The general commanding our forces has also shown a decided appreciation of the uses and needs of the medical service, and has inspired those medical gentlemen in the militia with great hopes for its immediate betterment, although that term can scarcely be applied to that which has hitherto been a nonentity. It seems almost incredible that before July of this year, no system of

rendering aid to the sick or wounded on service had official existence or recognition. There was a surgeon and an assistant surgeon but "no issue of supplies, no stretchers, no ambulances, no bearers, no training." There were, however, certain city regiments which had unofficially provided, at their own expense, some supplies, stretchers, etc., and had even trained a few bearers, but the department was not aware of their existence. There is to be formed, at once, an army medical service, which will consist of commissioned medical officers and the companies and field-hospitals as mentioned in the last JOURNAL.

LIQUOR AT STUDENTS' BANQUETS.

Our medical colleges and universities have all held their annual banquets; and there is now considerable adverse comment as to the use of liquor at these banquets, particularly at those of the medical. A writer in the lay press, who has evidently been at all of these functions, states that invariably the university dinners are conducted in an orderly and dignified manner, while too often the medical functions deteriorate into a maudlin orgy. This is altogether too harsh criticism for the medicos, simply because two or three of their number, in many cases boisterous freshmen, participating for their first time in this jollification, may become a trifle deranged from having imbibed a little more pale ale than is their custom. To one who has been intimately associated recently with the student body, this will carry no weight, for there is probably no finer body of medicos turned out annually from any other institutions than those which are graduated from our two leading medical schools.

THE CHILDREN'S HOSPITAL, TORONTO.

Mr. John Ross Robertson, the philanthropist who has done so much for this institution, and who continues to take a leading part in its governance, has just addressed a letter to all of the secretaries of the respective lodges of fraternal orders throughout Ontario, asking for a donation of $5 from each lodge: most of them are responding. There is now a debt of $30,000 on this, and in order to clear that off, Mr. Robertson has hit upon this plan.

London.

(From Our Regular Correspondent.)

FOG AND DEATH-RATE.

LONDON, Dec. 2, 1899.

The serious effect of fog on the public health is well illustrated by the contrast between the death-rate of the month just closed, and that of ordinary years in London. November is generally reckoned one of the most trying months of the year in London, on account of the raw coast winds and dense sulphur-dyed, natural-wool atmosphere politely known as "fog." The past month has, however, been mild, sunny and singularly free from either rain or fog—although curiously enough a terrible, black-mist-avalanche descended on the city and paralyzed traffic for three days late in October, and as a result the death-rate for the month has stood at the phenomenally low figure of 17 to 17.5 per 1000, while the average for the entire year is from 18.5 to 19 per 1000. The mortality bills for the past week show that not a single death from smallpox occurred in the thirty chief towns of England, except in Hull, which had the unenviable notoriety of 22. Nearly 600 cases have now occurred in this great seaport, and the past week was the worst yet, both as to new cases and deaths.

SCHOOL-MEALS FOR UNDERFED CHILDREN.

Much disappointment is expressed over the refusal of the London School Board to adequately recognize the physical and physiologic basis of education in the way of providing school-meals for underfed children. In spite of the excellent results of the French and American experience in this direction, the bogy of "undermining parental responsibility" was too much for their nerves, and the able recommendation of positive action of the special committee was referred back to them with the request to submit plans whereby the admittedly desirable object of well-fed scholars might be obtained without the expenditure of public money.

SERVICE IN THE TRANSVAAL.

Other well-known medical names are announced as going to the front this week. Anthony Bowlby of St. Bartholomew's Hospital, Mr. Cuthbert Wallace of St. Thomas' Hospital, and Mr. Ernest Calverly are the surgeons, and Dr. Howard Tooth the physician of the staff of a field-hospital, fitted out for special service, which will be despatched to South Africa next week. Nothing but words of praise are being received as to the efficiency of the medical service with Lord Metheun's column, and indeed with the entire body of troops in the field. One item certainly speaks for itself, and that is the extremely low mortality among the wounded, still below 3 per cent., which, even crediting the clean wounds of the Mauser bullets with everything that has been claimed for them, means "pretty decent surgery" under the roughest of field conditions, by the army medical corps. The general health of the men remains excellent in spite of the undesirable frequency of either inadequate or polluted water-supplies in the towns and camps of both Cape Colony and Natal. A certain amount of dysentery of the mild type and a few cases of enteric fever complete the disease-roll. So much is the last-mentioned disease dreaded in camp, that it is stated that nearly 70 per cent. of all the troops just sent out to South Africa have submitted to protective typhoid inoculation. So we may have an opportunity of studying the value of this serum on a most extensive scale.

PRESIDENT OF ROYAL SOCIETY.

The profession has again been honored by the election of one of its great leaders, Lord Lister, to the distinguished post of president of the Royal Society, for a second term. In his anniversary address before the Society, this week, Lord Lister dwelt at some length upon the success of M. Haffkine in his preventive inoculations against both cholera and the plague reported by him before one of the regular meetings at the Royal Society. He regards it as practically established that in the case of the plague, the case mortality had been reduced 50 per cent. by the inoculations, while at the same time the number of those attacked among inoculated subjects was greatly reduced, as compared with the unprotected portions of the community. In cholera, the percentage absolutely protected by inoculations was much greater, but for some curious reason the mortality among the few actually attacked was almost as great as in unprotected individuals.

NEW CANCER LABORATORY.

A good example is almost as contagious as a bad one, and the enterprise and foresight of the State of New York in establishing a cancer laboratory, under the guidance of Dr. Roswell Park, Buffalo, N. Y., is bearing excellent fruit in widely scattered quarters. The quarterly court of governors of the Middlesex Hospital, this week, formally sanctioned the establishment of a cancer laboratory in the new cancer wing of the hospital, at an outlay of some $3000 and an annual expenditure of some $3500.

Association News.

Competition for the Senn Medal.

At the meeting of the Surgical Section of the AMERICAN MEDICAL ASSOCIATION, held June 4, 1897, Dr. Nicholas Senn offered to donate annually a gold medal of the value of $100 for the purpose of stimulating surgical research. The offer was accepted. The committee for this year, consisting of Drs. W. L. Rodman of Philadelphia, A. J. Ochsner of Chicago, and H. Horace Grant of Louisville, desire to direct attention to the following conditions governing the competition:

1. A gold medal of suitable design is to be conferred upon the member of the AMERICAN MEDICAL ASSOCIATION who shall present the best essay upon some surgical subject.

2. This medal will be known as the Nicholas Senn Prize Medal.

3. The award shall be made under the following conditions: *a*. The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the meeting at which the award is made, and the corresponding envelope to be then and there opened and the name of the successful author announced. *b*. All successful essays become the property of the ASSOCIATION. *c*. The medal shall be conferred and honorable mention made of the two other essays

considered worthy of this distinction, at a general meeting of the ASSOCIATION. *d*, The competition is to be confined to those who at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the AMERICAN MEDICAL ASSOCIATION. *e*. The competition for the medal will be closed three months before the next annual meeting of the AMERICAN MEDICAL ASSOCIATION, and no essays will be received after March 1, 1898.

All communications should be addressed to Dr. W. L. Rodman, Chairman, 1626 Spruce Street, Philadelphia.

Association Committees.

The following committees have been appointed since the last meeting of the ASSOCIATION.

Committee on National Legislation.—H. L. E. Johnson, Washington, D.C., Chairman; William H. Welch, Baltimore, Md.; William L. Rodman, Philadelphia, Pa.

Committee on Tuberculosis.—Norman Bridge, Los Angeles, Cal., Chairman; W. A. Evans, Chicago, Ill., Secretary; Farquar Ferguson, New York City; Paul Paquin, Asheville, N.C.; J. B. Elliot, New Orleans, La.

Committee on Revision of By-laws.—E. Eliot Harris, New York City; Dudley S. Reynolds, Louisville, Ky.

Committee on Revision of Pharmacopeia.—George F. Butler, Chicago, Chairman; H. A. Hare, Philadelphia, Pa.; W. B. Hill, Milwaukee, Wis.

Committee on Transportation.—H. L. E. Johnson, Washington, D.C., Chairman; C. A. L. Reed, Cincinnati, Ohio; I. N. Love, St. Louis, Mo.

Committee on Award of Association Medal.—George M. Gould, Philadelphia, Chairman; E. Fletcher Ingals, Chicago, Ill.; T. W. Huntington, San Francisco, Cal.

Committee on Award of N. Senn Medal.—Wm. L. Rodman, Philadelphia, Chairman; A. J. Ochsner, Chicago, Ill.; H. Horace Grant, Louisville, Ky.

Rush Monument Committee.—James C. Wilson, Philadelphia, Chairman; Henry D. Holton, Brattleboro, Vt., Treasurer.

Committee on Reorganization of Army and Navy Medical Corps.—Thomas H. Fenton, Philadelphia, Chairman.

Alabama—J. C. LeGrand, Birmingham.
Arizona—W. V. Whitmore, Tucson.
Arkansas—Claiborne Watkins, Little Rock.
California—George Chismore, San Francisco.
Colorado—J. N. Hall, Denver.
Connecticut—J. Francis Calef, Middletown.
Delaware—Oliver D. Robinson, Georgetown.
District of Columbia—C. W. Richardson, Washington.
Georgia—James B. Baird, Atlanta.
Florida—J. Harrison Hodges, Gainesville.
Idaho—E. E. Maxey, Caldwell.
Illinois—H. N. Moyer, Chicago.
Indiana—John H. Oliver, Indianapolis.
Indian Territory—B. F. Fortner, Vinita.
Iowa—T. J. Maxwell, Keokuk.
Kansas—Charles Gardiner, Emporia.
Kentucky—William Bailey, Louisville.
Louisiana—F. W. Parham, New Orleans.
Maine—E. E. Holt, Portland.
Maryland—Clotworthy Birnie, Taneytown.
Massachusetts—H. D. Arnold, Boston.
Michigan—A. W. Alvord, Battle Creek.
Minnesota—Walter Courtney, Brainerd.
Mississippi—R. E. Jones, Crystal Springs.
Missouri—Walter B. Dorsett, St. Louis.
Montana—C. K. Cole, Helena.
Nebraska—Robert McConaughy, York.
Nevada—H. Bergstein, Reno.
New Jersey—S. M. Halsey, Williamstown.
New Hampshire—Charles R. Walker, Concord.
New Mexico—G. S. Easterday, Albuquerque.
New York—Nelson M. Henry, New York City.
North Carolina—George W. Long, Graham.
North Dakota—R. D. Campbell, Grand Forks.
Ohio—Rufus B. Hall, Cincinnati.
Oklahoma Territory—J. B. Rolater, Oklahoma City.
Oregon—A. C. Smith, Portland.
Rhode Island—F. L. Day, Providence.
South Carolina—Manning Simons, Charleston.
South Dakota—D. W. Rudgers, Yankton.
Tennessee—D. E. Nelson, Chattanooga.
Texas—H. A. West, Galveston.
Utah—H. D. Niles, Salt Lake City.
Vermont—Henry D. Holton, Brattleboro.
Virginia—J. A. White, Richmond.
Washington—C. G. Brown, Spokane.
West Virginia—John L. Dickey, Wheeling.
Wisconsin—W. T. Sarles, Sparta.
Wyoming—R. Harvey Reed, Rock Springs.

Correspondence.

The Standard English of Medical Men.

WASHINGTON, D.C., Nov. 12, 1899.

To the Editor:—A series of articles entitled "Suggestions to Writers," has appeared from time to time in one of our leading medical journals, but it is noticeable in subsequent issues of the same journal that the editor often writes without taking into account the very grammatical exigencies to which he calls attention. This reproach, by no means new, is familiar in the foreworn admonitions as to the transgression of those living in glass houses and those who see motes in their neighbor's eye. It is said, moreover, that if a man values his peace of mind, let him not write about the Queen's English. In spite of the warning that such experiences give, and conscious of the fate that awaits him who plays with edge-tools, I am prudent enough to approach this delicate subject, not with a view to fault-finding or saying anything particularly new, but rather to point out, after the manner of a literary laundryman, a few of the spots that stain the medical shirt front of many who use our common vernacular. An immaculate linen marks refinement in dress, so should purity and precision of expression characterize the language of a science that deals with such important topics as health and disease, life and death.

Most of us who attend the ASSOCIATION meetings, I dare say have noticed the different intonations that mark the southerner, the down-easter, and the man from the western prairie. But it is not so much these peculiarities as their questionable linguistic expressions that call for emendatory criticism.

More or less laxity and impropriety of speech prevail among all classes: but what must be the attainments of a Nestor of the profession in Washington, who, when asked about one of his patients, said, "He is some better," and in the same conversation was guilty of such solecisms as "It looks badly;" "was *illy* done;" "does your head hurt you *any*?" and "I have a *prejudice in favor* of blue mass." That he meant a predilection, prepossession or bias in its favor goes without saying. But this impropriety in language is not confined to the medical profession alone. Mr. Brander Matthews writes: "There is no prejudice [presumption] in its favor;" in one of the Consular Reports for August, 1899, p. 661, the elegant scrutiny of the Department of State allows a consul to say: "The French are *prejudiced* in favor of their own productions," meaning prepossessed; and a few days ago, in court, I heard a lawyer, who should know better, say, "a man and his wife are *prejudiced* in favor of one another." That such incorrigibles as members of Congress should use "illy" is scarcely worth citing, but when heard in a sermon otherwise good, by an Episcopal bishop of a western state, I was *prejudiced* against him for this.

Some of the foregoing incongruities I have noted in New England journals, as well as those south of the Potomac, who speak of a patient's being *raised* when they mean *reared*, and in some published west of the Mississippi who use split infinitives; *locality* and *located* for *place* and *placed; phenomenal* for *extraordinary;* and *female* for *woman*. Why should our women patients be spoken of under that generic epithet, since it may mean a sow, a bitch, a cow, or a mare?

Anatomy is often used by many writers when *anthropotomy* is meant; others write *diagnose* for *diagnosticate; abnormalities* when they mean *abnormities; organization* for *organism; due* for *owing; jeopardize* for *jeopard; significance* for *signification; derelict* for *unfaithful; excursive* for *passing*, and they

congratulate themselves when as a matter of propriety we *felicitate* ourselves and *congratulate* others.

Many speak of *bad* cases and of *bad* colds when they mean *severe*, though it is hardly conceivable how any cold or any case of illness can be good which is the opposite of bad. An instance of this is to be found in a well-known "Text-Book of Nervous Diseases."

Writers for medical publications commonly misuse the word *idea* for *notion* and *theory* for *hypothesis*. The late Professor Henry of the Smithsonian Institution was most fastidious in discriminating between these words. Other instances of this kind are *deathly* when *deadly* is meant, and the indiscriminate use of *corporal* and *corporeal*.

Logic is often spoken of for *consistency;* logical for *analogical;* illogic for *inconsistency*, and illogical for *inconsistent*, while *laryngologists* speak of *orotundity* when they mean *orotund*.

The preposition "without," when *unless* should be used, is sometimes profound. Though corrected in a subsequent edition, it occurred in a work on punctuation by a celebrated proof-reader in Boston, and the pages of Herbert Spencer's work on Education are occasionally marred by this blemish.

The word *necropsy* being preferable to post-mortem or autopsy, some hypercritical person asks what verb should follow the use of this word—to have, to hold, to make, or perform? Instead of *under* should we not rather say "in the circumstances," "in the conditions," in order to conform to etymological correctness? *Mesological circumstances*, though lacking the merit of brevity, is a phrase that seems preferable to *environment*—a word that sciolists and pseudo-scientists have worked to such a disgusting extent that I never hear it now without feeling like the man in the minstrels who asks to be struck over the head with a feather. Figure to yourself the tableau I recall of a dry-as-dust professor, with about as much grace as a bull in a china shop, trying to entertain a young girl at a reception with conversation made up of phrases from the prefaces of scientific books and interpolated with the frequent use of the word *environment*, which he used with evident lingual unction.

Like inscriptions on a thermometer, the language one uses often reveals the temperament and character. Inaccurate thinking and obscure notions naturally give rise to wabbly English as the outcome. The style of man who rises early, takes a cold bath, and reads calculus before breakfast, though he may be conceited the first half of the day and stupid the second half, will use different language from the man who hunts game in the open and makes dinner the chief event of the day. Yet both may express themselves clearly.

But clearness and simplicity of expression which always reach the most complicated recesses of thought, are more to the point in medical writing than the style of man. Ponderous words and diffuse styles are less common nowadays among scientific writers. The preference of up-to-date military authors for *foot*, *horse*, and *gunners*, instead of infantry, cavalry, and artillery, is an example to be commended. The Hon. Caleb Cushing, a pertinacious contender for pure English, often accused our language of poverty, because there was no better word than "department" to express the different branches of the governmental service.

Common instances of obscurity that have bothered me in text-books and journals are constructions in which are found the expression "not infrequently" and "not uncommonly." I am not aware that this glaring fault has been referred to before, except by Mr. Charles Reade, the English novelist. Only a few days ago I began to read in a medical journal—that shall be nameless—a leader starting with this pleonastic redundancy of construction, which was so equivocal that I had to puzzle over it for some time, and I am not quite sure now that the real meaning of the writer penetrated my sensorium.

The flagrancies here-above sketched are the more common ones that I have noted for several years in current medical literature, and the sources may all be specified, but for obvious reasons are withheld, not to mention the limitations of space which enforces their exclusion. I disclaim all uncharitableness that the foregoing remarks may imply, nor do I value myself on irreproachable English, since the weakness of our poor human nature is to admire what we lack and to condemn in others the very faults that we commit—and who does not err at times both in speech and action? Now, if it be true that style is the man and literature a social expression, there follows an intimate relation between the highest form of organized common sense known as medical science, and that purity of taste and precision of style that should mark the communication of medical knowledge either by speech or its symbolization. Consequently, in working for one we fight for the other.

If the editor does me the honor to print this I suspect that I shall soon awake to the fresh calamity of mental unrest; but as I value mental composure above many other sublunary things, my signature is supplied by the usual asterisk, although the substitution thereof may bring forth the quibble that the writer would be an ass to risk his name to such a production.

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Letter from Mexico.

(From Our Special Correspondent.)

MEXICO CITY, MEX., Dec. 7, 1899.

The Republic of Mexico, on account of its close relations with our own country, geographically and commercially, is attracting our attention more at the present time than ever before. Its fabulously rich mines are being invaded by American wealth seekers, its great coffee, rubber, vanilla and mahogany districts are being explored, and approximated by the business men of the United States. Commerce is rapidly increasing in importance between these two countries, and the American traveler will to-day hear fully as much English spoken on the Broadway of the City of Mexico, as he will the Castilian language which was introduced here by Cortez.

THE PROFESSIONS IN MEXICO.

We would naturally expect, in view of this peaceful invasion of American interests, that the professions should be equally represented in Mexico. This is to a certain extent true. The laws of Mexico are not, however, very favorable toward foreigners who desire to practice law, medicine, civil and mining engineering, as, in order to obtain a legal standing in any of these professions one must pass the same examination, before the proper board of examiners, as is required of the Mexican aspirant of a degree, and this examination must be taken in the Spanish language. Previous to taking my examinations, I had practiced in the city under many difficulties. Not being able to sign my death certificates, I was obliged to secure the kindly aid of a Mexican graduate, when an unfortunate patient died, as no burial permit is granted without a legally qualified physician's certificate is furnished. In case of no certificates being forthcoming, the Board of Health orders an official autopsy, in order to determine the cause of death, and if any suspicious circumstances are developed, the suspected person or persons are at once arrested. It is thus evident that the unlicensed practitioner has no legal standing, is in fact not even recognized by the law; his position as medical attendant in such a case might be made, to say the least, very uncomfortable. The fact is, however, that during my residence of fourteen years in Spanish America, I have never known of any case where official inquiry has resulted disastrously to an American physician. The Mexican law recognizes diplomas from standard foreign medical schools, as evidence of sufficient medical knowledge to entitle the holder to final examinations required of a Mexican student who aspires to the medical degree.

EXAMINATIONS FOR PRACTICE.

The examination is, however, more thorough in case of a foreigner, as the American student is well known to the faculty, and the final examination is more or less a mere matter of form. The Mexican medical student has to take a course of study covering a period of six years, and every student is required to act as hospital interne for several months during his final year. The first step for the foreign physician to take in order to obtain an examination before the National School of Medicine in Mexico, is to have his diplomas sent to the secretary of state in the state where the diploma was granted, in order that that officer may certify to the genuineness of the signatures on the diploma. Then the certificate of the secretary of state must be sent to the secretary of the Mexican legation at Washington, or to the nearest Mexican consul, who certifies to

the signature of the secretary of state. These documents, together with the diploma, must be presented to the secretary of the National School of Medicine, together with six copies of a thesis written by the applicant, in Spanish. One is finally required to satisfy the secretary of the school that he is the proper owner of the diploma. On complying with these little formalities, he is then told that he must wait his turn for the examination, as but one applicant is examined at a time. His name is inscribed in a book, and he will be notified three or four days before his examination takes place. The examination is divided into two parts, theoretical and practical. The first is held in the old inquisition building, which has recently been remodeled and rechristened the "National Medical School." The examination begins at 6 o'clock in the evening, and is held in one of the larger lecture-rooms. When I arrived there the seats were nearly all filled with physicians and students who were awaiting the immolation of the "Americano." Seated on a raised platform at one end of the room were six professors of the medical college, five of whom were to be my inquisitors, while the sixth acted as secretary of the board. An empty chair was placed in front of the long table behind which sat the examiners, and I was conducted to this chair. Briefly, I was interrogated by these five professors, one at a time, and the questions covered the whole range of the professional curriculum, the examination lasting about three hours. I was then dismissed, after being told to present myself at 7 o'clock the following morning at St. Andrew's Hospital, a national institution. On arriving there I was met by the professor of surgery, conducted to a bedside and told to make a diagnosis, prognosis, and lay out a line of treatment, on all of which he would question me later. When I had finished observing the patient, another physician took me to another hospital patient, and so on, until each of my examiners of the previous evening had furnished me with a case. The last professor, however, took me to the anatomic room and requested me to ligate the femoral artery in Hunter's canal. All of this consumed about two hours, and I was then conducted into the examination room in the hospital, which is used for this purpose, and similar to the one at the medical college. Here I was questioned by each of the professors concerning the case he had assigned to me, after which I was asked to retire from the room, and about five minutes later I was handed a sealed envelope which contained the verdict of my examiners. On opening it, I was pleased to read a statement signed by the secretary of the State Board of Examiners, to the effect that they were satisfied with my proficiency, and that a diploma would be granted me in the regular way. I was then told to have my photograph taken, and to send an unmounted copy to the secretary of the National Board of Health to be attached to the diploma which was handed me, after I had affixed my autograph to a book kept for that purpose.

In some future letter I may describe the courses of study laid down in the Mexican Medical College, allude to the many hospitals here and other items of medical interest.

A. W. PARSONS, M.D.

A Pathologic Exhibit for the A. M. A.

ST. PAUL, MINN., Dec. 13, 1899.

To the Editor:—I wish to express my hearty approval of the plan of acquiring a permanent pathologic exhibit for the AMERICAN MEDICAL ASSOCIATION, as outlined in the article by DR. F. B. WYNN, published in the JOURNAL of December 2, It seems to me practicable and of unquestioned value.

Truly, yours, PARKS RITCHIE, M.D.

Skeleton Calendars.

BOSTON, Dec. 8,, 1899.

To the Editor:—The profession is still being afflicted with the insulting skeleton calendar, and it seems as if those rendering them should receive some rebuke from the profession. It seems a strange way to bid for patronage by representing our professions as death-dealers. In former years I have contented myself with destroying as many of the calendars as I could; this year I have written on the envelope, "I will not accept this most insulting calendar," returning it to the post office.

WM. E. BAXTER, M.D.

New Instruments.

A NEW CHEST-PIECE FOR THE STETHOSCOPE.

BY FREDERICK W. MERCER, M.D.

CHICAGO.

The chest-piece shown is so constructed as to be adjustable to any stethoscope having elastic conducting tubes. The plan is a modification of that adopted in the construction of a class of ear trumpets, and the object attained is increased volume and greater intensity of pitch than has been possible with the common or direct chest-piece.

Intensity is not so noticeable when auscultating the heart, as it is in the respiratory murmurs, where this device takes the same rank as does the phonendoscope in heart sounds. To those having a dulled sense of hearing, this little adjunct will be found a welcome aid.

German silver is the best material for its construction. The plan consists of an outer bell (A), slightly conical; an inner bell (B), also conical, but much smaller. The inner bell is in reversed position to the outer, and is held there (about 2mm.), free of the smaller end of the larger bell. The inner cone is supported by, and connected with, two tubes (C), passing through the sides of the outer bell, curving upward and slightly inward, for about 5cm., for connection with elastic conducting tubes.

2540 Prairie Avenue.

MUSCLE TENSION METER.

BY A. G. FIELD, M.D.

DES MOINES, IOWA.

The above cut represents a new instrument originally designed by me, to determine with precision the extent of muscular softening, in pension claims for alleged disability from paralysis, fracture, dislocation, gunshot wounds, or other traumatic injuries. In use, the two knobs are adjusted to the side of the limb, and secured by the lower or right-hand set-screw. The left knob is then pressed into the limb, one inch, more or less, shown on the lower scale, and held in place by the left-hand set-screw. The shaft carrying the right-hand knob indicates the amount of force required, in pounds, of which note is to be taken. While the instrument is in position the subject is directed to voluntarily contract the muscles of the limb. The resistance will again be shown in pounds, by the movement of the shaft. A comparison of results of examination of the two corresponding limbs is necessary. The instrument is applicable, not only in diagnosis but in prognosis after fracture, dislocation and other injuries, to indicate progress in muscular development.

Book Notices.

ENLARGEMENT OF THE PROSTATE, ITS TREATMENT AND RADICAL CURE. By C. Mansell Moullin, M.D., Oxon., F.R.C.S., Surgon and Lecturer on Surgery at the London Hospital. Second Edition. Price, $1.75. London: H. K. Lewis. Philadelphia: P. Blakiston's Son & Co. 1899.

In this second edition of this work, Moullin has omitted the account of many operations noticed in the first edition which he regards as of only historic interest at the present time. Those here discussed are suprapubic prostatectomy, Dittel and Nicoll's perineal operation, Bottini's operation and orchidectomy. He rather favors Belfield's suggestion of a perineal incision in many cases of the suprapubic operation, for exploring the prostatic urethra, and also points out its advantages for drainage. Bottini's operation, he holds, has not met with all the favor it deserves, though its applicability is somewhat limited, and he is inclined to believe that its benefits are not exclusively due to its removal of a passive obstruction. It relieves congestion by destroying the various plexuses and thus does away with the various evils of congestion, causing irritability and vice versa. Orchidectomy in his hands has had good results, and he may be reckoned among its advocates, at least in properly selected cases. Vasectomy, on the other hand, does not receive his recommendation. The larger part of the work on anatomy, diagnosis, symptoms and local treatment does not appear to have been very materially altered. He expresses an even more hopeful opinion than in his first edition as to the outcome of proper measures in this affection, in his preface to the present volume.

A TEXT-BOOK OF PHYSIOLOGY. By Winfield S. Hall, Ph.D. (Leipzig), M.D. (Leipzig), Professor of Physiology, Northwestern University. Illustrated. Philadelphia and New York: Lea Brothers & Co. 1899.

This volume, appearing as it does simultaneously with the new edition of Kirke's Physiology, is necessarily subject to a comparison with that well-known work. It does not, however, suffer on careful examination, but is a work that improves on acquaintance. Its plan is somewhat different from that followed in other text-books, and the special attention given to physiologic chemistry may perhaps make a more formidable impression on the student than is the case elsewhere, but this soon wears off, and in view of the greater importance given of late years to the chemical questions of medicine, it may be credited as a special advantage of the work. There is very little padding or unnecessary verbiage. The work impresses one as judiciously conservative, simply giving facts in preference to opinions on or discussion of disputed points. As a student's text-book it may appear at first sight as less attractive than some others, but for study and reference we can not say it is inferior to any, and it has its own special merits. It is certainly scientific in the best modern sense. We notice a little slip in the conversion of Fahrenheit to Centigrade, on page 395, which, however, is unimportant. There may be others, but we have not detected them. The work is one we can cordially recommend to students, either medical or others, and to the practical physician.

INTRODUCTION TO THE OUTLINES OF THE PRINCIPLES OF DIFFERENTIAL DIAGNOSIS, WITH CLINICAL MEMORANDA. By Fred. J. Smith, M.D., Oxon., F.R.C.P., Lond., Physician and Senior Pathologist to the London Hospital. New York: The Macmillan Company. London: Macmillan & Co., Ltd. 1899.

The author's modest claims for his work as stated in his preface, that he has not aimed to produce a text-book of medicine but simply to offer "a series of pegs whereon to hang a chain of knowledge," conveys an idea of the plan of the volume. It is a series of statements, largely in tabulated form, of the leading diagnostic points of the various disorders with general explanatory and critical remarks relative to the same. This is a convenient form and the only essential is that it shall be sufficiently full and accurate and not make the mistake of accepting too comprehensive or erroneous generalizations, as is too often the case. The author claims to have carefully avoided this error so far as he was able, and we find no striking evidence, at least, that he has not succeeded. He also admits numerous sins of omission, and thus disarms criticism as to these. Taken altogether, the work is a very meritorious one, performing about all it promises, and it will therefore probably meet with the desired favor from the profession.

TEXT-BOOK ON EMBRYOLOGY FOR STUDENTS OF MEDICINE. By John Clement Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. Illustrated. Philadelphia: W. B. Saunders. 1899.

This work was written with the intention of meeting the demand for a comprehensive student's manual of human development without the unnecessary minuteness of detail of the larger treatises or their elaborate discussions of comparative embryology. The author has fairly succeeded in his intent, and has given us a text-book that will be likely to be well received and for some time be a standard work on its subject. The illustrations are numerous and well selected; the descriptions generally clear and full and the general make-up of the book excellent. There is no overloading with references, but the author expresses his indebtedness to several leading authorities, in his preface. The work concludes with a tabulated chronology of human embryonic development and a very satisfactory index.

PRACTICAL TREATISE ON MEDICAL DIAGNOSIS FOR STUDENTS AND PHYSICIANS. By John H. Musser, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Third Edition. Illustrated. New York and Philadelphia: Lea Brothers & Co.

The appearance of a third edition of a work of this class, within six years, is sufficient evidence that it is appreciated as a valuable contribution, and also, in the present case, of marked advances in our knowledge of its subject. The present volume has been largely rewritten, some sections entirely, and very considerable changes have been made in its arrangement. New chapters have been written and a total of nearly 150 pages added to the volume over the preceding edition. The chapters on infectious diseases have been transferred to the general section of the work, from that of special diagnosis, and much new matter has been added. This can also be said of the whole section on general diagnosis, which fills some 400 pages as compared to less than 180 in the third edition. Nearly all the chapters have new headings and are extensively revised, those on the nervous system being entirely new. Another feature of the work is the presence of many new illustrations, including numerous colored plates that were lacking in the earlier editions. The purchaser of this book can most certainly feel assured that he is obtaining his money's worth.

ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICAL MEDICINE. By Charles E. de M. Sajous, M.D., and One Hundred Associate Editors. Illustrated with Chromo-Lithographs, Engravings and Maps. Vol iv. Philadelphia: The F. A. Davis Co. 1899.

The fourth volume of this unique work includes subjects coming alphabetically between "Infants" and "Mercury." As the volume covers such a variety of topics, and these discussed by so many authors, it may seem unfair to mention only one; and yet we want to speak of the article on Insanity, because it represents the last literary work of the lamented Dr. George H. Rohé, and because it is deserving of special mention. It is exhaustive, and yet written in such a concise manner that it covers only seventy-five pages. It is thoroughly up-to-date, representing modern thought on the subject. Many other elaborate contributions are deserving of notice, but as all are good, it would be invidious on our part to mention any if not all. The author seems to have the happy faculty of selecting the right men for the right places, and of giving just as much space to a subject as it deserves, and no more. We can not say that we endorse the manner in which use is made of recent literature, as it takes more space than seems to us necessary; at the same time the volumes thus far published show that when completed the work will be a cyclopedia of practical medicine, thoroughly up-to-date, reliable, and worthy of the highest endorsement.

TRANSACTIONS OF INDIANA STATE MEDICAL SOCIETY. Octavo. Cloth. Pp. 552. Indianapolis, Ind.: 1899.

This book contains the papers read before, and the proceedings of the Indiana State Medical Society, which we believe is the second largest state society in the country. Its member-

ship is 1561. The session was the fiftieth annual meeting, and the event was duly celebrated. The address of the president, which is full of good, round common sense, took a reminiscent phase, and the address of the good, old Dr. Wishard, one of the founders of the society, is full of interest as a historic paper. Only four of the original founders of the society are now alive, and their photographs are printed in a group as a frontispiece. These are Drs. William H. Wishard, John N. Gaston, and Patrick H. Jameson, Indianapolis, and Thomas W. Florer, Waxahachie, Texas. Besides the papers mentioned, the volume contains forty original articles, all of superior merit. The book is well edited and the chairman of the Publication Committee, Dr. A. W. Brayton, deserves credit for his successful labors. It is a mistake that such a book should be issued without an index, for without this it is a library of useful knowledge with the door locked, and no key to open it. The key does not cost much; let us have it always. The book deserves a better binding.

TRANSACTIONS OF IOWA STATE MEDICAL SOCIETY. Octavo. Cloth. Pp. 420. Des Moines, Iowa: 1899.

This annual volume of the Iowa State Medical Society shows that that body is doing good work. Nearly fifty papers were read at the last, the forty-eighth annual, meeting, and these, with the discussion in full, are printed in the volume. The Society is in a flourishing condition, having 688 members. The volume before us reflects credit on those under whose supervision it was printed.

FRACTURES AND DISLOCATIONS. By Professor Dr. H. Helferich of Greifswald. Illustrated. Translated from the third edition, by J. Hutchinson, Jr., F.R.C.S., Surgeon to the London Hospital. New York: William Wood & Co. 1899.

This translation of Helferich's very fully illustrated treatise on fractures and dislocations is the latest issue in Wood's series of Medical Hand Atlases. The translation is good and the work seems likely to receive as much favor in this form as it met with in the original German.

Deaths and Obituaries.

MAJ. F. C. ARMSTRONG, of the 32d Kansas, died in Manila, December 4. He practiced in Eldorado, Kan., up to October 1, when he sailed from San Francisco for Manila. He was 46 years old.

ROBERT NAYLOR, M.D., of Salisbury, Md., died at Canon City, Colo., December 15. He was an Englishman by birth, and came to this country many years ago.

EMIL FISCHER, M.D., Jefferson Medical College, 1855, who came to this country from Germany when quite young, died at his home in Philadelphia December 13. He was one of the founders of the German Hospital, much devoted to charitable work, and somewhat noted as a musician of more than average ability.

WILLIAM PITT BRECHIN, M.D., Harvard, 1872, of Boston, Mass., died December 10. Besides being a member of the AMERICAN MEDICAL ASSOCIATION, he was identified with the New England Historic-Genealogical Society, the Harvard Medical Association, etc., at the time of death.

GEORGE CAREY, M.D., Houlton, Me., died November 29. He was born in 1837, was graduated from Bowdoin College in 1860, and in 1861 entered the Union Army as 1st lieutenant Co. K. 1st Maine Cavalry, being promoted to captain in 1862. He was later a member of the Maine Senate, and in 1879 was assistant surgeon-general of the governor's staff, with the rank of colonel.

STEPHEN T. BEALE, M.D., died in Philadelphia, December 14. He was born in Sussex, England, in 1814, and came to America in 1831, locating in Philadelphia in 1837. He was graduated from the Jefferson Medical College in 1847.

CHARLES HERWISCH, M.D., Philadelphia, one of the attending physicians to the Philadelphia Polyclinic, and also of the Rush Hospital for Consumptives, while driving recently had his horse frightened by a locomotive. Collision with a trolley car threw the Doctor out, and the injuries received resulted in death, December 14. He was 47 years old.

C. M. STOCKWELL, M.D., Port Huron, Mich, died at his home, at the age of 76 years, December 9. He was a graduate of the Berkshire Medical College, Pittsfield, Mass., class of 1850. After graduation he practiced a year in Pennsylvania, and then located at Port Huron. He has since twice been president of the Michigan State Medical Society, as well as prominent in other societies. During the Civil War, he was surgeon of the 28th Mich. Infantry, and at the close of the war was assistant-surgeon at Fort Gratiot, for a time.

SAMUEL KETCH, M.D., Bellevue Medical College, N. Y., 1875, died in that city December 14, aged 44. He was a member of the American Orthopedic Association, and at the time of his death attending orthopedic surgeon of the Montefiore Home. The meeting of the Orthopedic Section of the New York Academy of Medicine, December 15, was adjourned out of respect to the memory of Dr. Ketch, and a committee appointed to express the sentiments of the Section. The committee reported as follows:

The Orthopedic Section of the New York Academy of Medicine desires to express its profound grief at the sudden death of Dr. Samuel Ketch, one of its most useful and honored members.

An original member of the Orthopedic Society, since merged in the Orthopedic Section of the Academy, he served as its Secretary in 1889 and as its Chairman in 1891, presented several valuable original contributions, and was at all times prominent in everything pertaining to its best interests and progress.

Identified with the practice of orthopedic surgery for nearly twenty-five years, and in every way devoted to the advancement of his chosen work, his life was one of consistent uprightness and honest and successful effort.

HENRY LING TAYLOR,
NEWTON M. SHAFFER,
REGINALD H. SAYRE,
Committee.

S. R. Coker, M.D., Mount Calm, Texas, died November 30, while returning from a professional call....Benjamin N. Comings, M.D., New Britain, Conn., December 4....Albert Foster, M.D., Marquette, Mich., December 6, aged 30....Sheffield M. Greene, M.D., Richburg, N. Y., November 27, aged 85....Holman S. Humphrey, M.D., Hillsdale, Mich., November 25, aged 56....F. L. Johnson, M.D., New York City, December 10, aged 30....A. D. Jausset, M.D., Patterson, N. J., December 9....Jacob K. Kistler, M.D., Lehighton, Pa., December 9, aged 51....George A. Lankford, M.D., Harrisburg, Texas, November 30, aged 30....J. Rowland Lewis, M.D., King William Courthouse, Va., December 9....Wm. A. Lockwood, M.D., Brooklyn, N. Y., December 8, aged 60....Wm. E. Robbins, M.D., Hamburg, N. Y., December 2, aged 32....Simon Rosenberger, M.D., Pasadena, Cal., December 4, aged 68....A. E. Senkler, M.D., St. Paul, Minn., December 10, aged 57....Uriah M. Short, M.D., Grand Rapids, Mich., December 13, aged 54.... J. T. Simpson, M.D., Glen Springs, S. C., December 3, aged 50....J. T. Tamblin, M.D., Greenwood, Neb., November 29, aged 67....H. A. Volked, M.D., Buffalo, N. Y., December 11, aged 28 years....C. F. Waters, M.D., Marietta, Ohio, December 10.... J. D. Westerveldt, M.D., Corpus Christi, Texas, December 10....E. M. Whiteworth, M.D., Webb City, Mo., November 26, aged 70....Edward N. Wood, M.D., Buchanan, Va., December 9, aged 59.

DEATHS ABROAD.

OTTO HOHLS, M.D., formerly of the University of Strasburg, and assistant-surgeon of the Boer Army, was killed at Ladysmith recently, according to press dispatches.

GEORGE LOGAN, M.D., Ottawa, Canada, died November 17, aged 69. He received his medical education in Columbus, Ohio, being graduated in 1860. He located in Ottawa in 1863 and practiced there until his death. For many years he was a member of the Ontario Medical Council.

Miscellany.

Rating of Expert Evidence.—It is error, the supreme court of Nebraska holds in Hayden vs. Frederickson, to instruct the jury that "expert evidence is of the very lowest order, and is the least satisfactory." It maintains that it is for the jury alone to determine the weight to be given such evidence.

Formation of Speech.—Marage has established that the vowels are formed exclusively in the buccal cavity, *Sem. Med.*,

November, 29, and has succeeded in obtaining complete casts of the mouth as the different vowels are produced. He suggests that these casts might afford assistance in training deafmutes to speak.

Chloroform in Gelatin Tubes.—The chloroform is put up in gelatin tubes holding 30 to 50 grams each. J. Fisher commends this method (*Wiener Med. Presse*, No. 45), on account of the absence of danger of breakage, the hermetic closing economic administration and simple manipulation. It is especially designed for obstetric practice.

Secondary Infection in Lepra.—Brutzer writes to the *St. Petersburg Med. Woch.* that his experience at the Riga leprosorium has shown that the exacerbations in lepra are chiefly due to intercurrent infection favored by the cutaneous lesions, burns, etc., to which leprous subjects are particularly liable on account of their insensibility to pain.

Hemiplegic Neuritis from Intoxication with Carbonic Oxid.—An article in the *Revue Neurol.*, 13, calls attention to the great value of electricity in the diagnosis and prognosis of the various paralytic symptoms which follow intoxication with charcoal, differentiating at once without trouble between paralysis from neuritis, paralysis from central hemiplegia and hysteric paralysis.

Endonasal Treatment of Frontal Sinus.—G. Spiess writes to the *Archiv f. Laryng.*, ix, 2, advising an opening in the lowest portion of the frontal sinus, for the subject to rinse out the cavity every day. He inserts the trephine through a sound first introduced into the sinus after cocain, its course followed by the X-ray. "The operation is no more serious than the puncture of the maxillary sinus."

Rat Tail Tendon Absorbable Sutures.—E. Janes states (*Gaz. Méd. Belge*, November 15) that remarkably fine strong suture material can be obtained from the tail of the rat, cutting the skin around the base of the tail and pulling it off reversed like a glove. By scraping with the nail at the last vertebra, a bundle of five or six tendons can be seized, which are aseptic and can be used as they are, threading easily. They can be kept dry or in alcohol, are readily absorbed and very useful for delicate surgery, especially for the eyes.

State Board of Health of Pennsylvania.—The last report of the Board has been published. As a general rule the reforms asked for met with failure at the hands of the legislature. The Board desired to have local boards in all parts of the state, but without avail. Another thing asked for was sufficient power to suppress pollution of rivers, which was also defeated. The annual expense of the Board is about $4000. During the last year $6300 has been expended in suppressing smallpox, which is prevalent in different sections of the state.

Hydrophobia Without Being Bitten.—Among the eight persons who died out of the 1500 treated during 1898 at the Paris Pasteur Institute, was a child who was attacked by a rabid dog but was not bitten, pushing the dog away with his hand on the animal's open jaws, and soon after rubbing his eye with his hand, as a grain of sand lodged in it. He died of hydrophobia sixteen days later. Another person was bitten fourteen months before, by a dog which was then and has ever since been in apparently perfect health. In another case a man was bitten, but the veterinarian who examined the carcass of the dog, killed at once, certified that none of the ordinary symptoms of rabies were discoverable, and yet the subject died in forty-three days.

Surgical Intervention for Tumors of Bladder.—In Pousson's statistics, collected in 1895, no patient had survived over two to four years. Motz reported, at the French Congress of Urology, that he had collected 55 cases thus operated on; 35 over three years ago. Only 1 patient has survived out of 18 with epithelioma, but 7 are still alive, with 4 recurrences out of 9 with papilloma. Clado reported 49 cured out of 62 benigns, and 28 in 111 malignants. Albarran reported 36 cases out of 48 benigns, and 23 out of 97 malignants. Boeckel also reports 2 cured after removal of a papilloma, three and five years ago. One required an operation a year and a half afterward, for a supposed recurrence, but on operation a large calculus was found and no evidence of recurrence could be discovered then or since.

Not Case to Order Physical Examination.—People vs. Roosa, is the title of a case wherein it was sought, by mandamus, to establish a right to the office of chief of police or policeman in a village. In opposition, it was maintained that the applicant for the position was lame and otherwise physically disabled and incapacitated to perform the duties of the office. The court ordered him to submit to a physical examination. But the second appellate division of the Supreme Court of New York reverses the order, on the ground that it was without legal authority either statutory, or otherwise. Referring to Section 873, of the Code of Civil Procedure, it says that it applies, in terms, to actions for the recovery of damages for personal injuries, and does not embrace such a proceeding as this, and that, besides, it may only be had in connection with an oral examination of the person, which was not sought here.

Treatment of Tuberculous Testicles.—Potherat states that in every case of chronic tuberculosis of the testicles, which he has treated by ablation of the affected side, the other side became affected in less than two years afterward, although the general health remained good and the patients were young. He therefore concludes that unilateral castration is useless as respects the definite cure of genital tuberculosis (*Gaz. Med. Belge*, November 30). The only means of accomplishing it would be the total ablation of both testicles, vasa deferentia and prostate. Unilateral castration does not retard the progress of the tuberculosis, and its possible effects on the psyche may favor the general depression. He would restrict castration to the cases of enormous tumor formation, numerous purulent foci or multiple fistulæ.

Allows a Big Dentist's Bill.—In view of the character of some of the communications published in the columns of the JOURNAL, with regard to the reluctance of a former probate judge of Cook county to allow proper claims for medical attendance, it is of double interest to note that the present acting judge of the court is reported to have just allowed a claim of $1605, against the estate of the late George M. Pullman, palace car magnate, for dentistry. The account is said to run from 1893, and to be made out of charges aggregating $1161 for work done for Mr. Pullman, and $444 for work, etc., for one of his sons. The dentist charged $10 an hour for his services. In September, 1895, the account was swelled $275. The largest charge for a single day during that month was $60; the smallest, $20. On the son's account, $25 was charged two occasions for "lost time." One item was $250 for "regulating" the teeth and gums.

Craig Colony for Epileptics.—The annual report of the Board of Managers was submitted to the State Board of Charities, at its yearly meeting, December 15. It shows great growth of the institution during the past year. Since the opening in 1896, 504 epileptic patients have been received, of which number 378 still remain. New buildings now in process of construction will increase the present capacity to 720 beds. There still remain about 550 applicants on the waiting list, to be accommodated. The report asked for appropriations for infirmaries for the helpless and crippled epileptics of both sexes, and $4000 to carry on scientific investigations in the cause of epilepsy and to secure advanced methods of cure and treatment of the diesase. The death-rate for the year was but 2 per cent., the lowest in the history of the colony. During the past year only 95 cases were admitted, owing to the present insufficient accommodations.

Deprivation of Alkaline Salts in the Food As an Adjuvant of Sodium Bromid Treatment of Epilepsy.—Richet and Toulouse announced at the meeting of the Paris Academy of Sciences, November 20, that their experiences with thirty female epileptics has demonstrated that depriving the nerve-cells of the usual amount of salts in the food, renders them avid of medicinal salts which they take up to a remarkable extent, rendering a fraction of the usual dose effective. Two grams of sodium bromid a day arrested the epileptic at-

tacks, sometimes in less than a week, no matter how frequent they had been before. Several have shown no recurrence during the six months since. As the bromid is so much more active in these conditions, intoxication must be guarded against. Richet proposes to call this "chloridic semistarvation of nerve-cells," the metatrophic method, and suggests that it may possibly apply also to affections treated with quinin, digitalin, atropin, etc., as well as those in which the alkaline salts are administered. The saltless food has no deleterious influence on the patient.

Health of Camden, N. J.—Dr. E. B. Godfrey, of the Camden Medical Society, read a paper before that body recently, in which he proved that there has been a great reduction in the typhoid fever cases in that city since artesian well water was substituted for that from the Delaware River. The number of typhoids were said to have been reduced 62 per cent., and from this it is judged that the Delaware River water was the chief source of infection. During the past three months, September, October, and November, but five cases and one death have been reported in a population of 75,000.

Physicians Increasing in Germany.—The *British Medical Journal*, December 2, notes the rapid increase of physicians in Germany. In 1898 it was found that the number of practitioners in Germany had increased 56 per cent. during the previous eleven years, while the population had increased only 14 per cent. "In other words, whilst the proportion of medical practitioners to inhabitants was for the whole empire about 1 to 3000 in 1887, it was, in 1898, 1 to 2197. The number of doctors, especially those in private practice, increased in proportion to the population least in commons of medium size (5000 to 20,000 inhabitants), but in commons with less than 5000 inhabitants it increased by about 30 per cent., while the number of inhabitants increased only by 0.3 per cent. The increase in the number of doctors is greatest among those employed by *Anstalten* or institutes of the private hospital order; such abound in Germany for the treatment of diseases of all kinds."

Cryoscopy.—Lindemann considers the freezing point of the urine the most reliable means at our command to test the permeability of the kidneys, endorsing Koranyi's assertion in full. The variations in the freezing point with parenchymatous and interstitial nephritis are also characteristic. With the latter the urine may even have a lower freezing point than normal blood serum. It is impossible to distinguish between acute and chronic nephritis by this means, but recovery can be recognized by the rising of the freezing point. Albuminuria with congested kindney, cystitis and pyelitis are differentiated by the lack of change in the freezing point. Lindemann found that the concentration of the blood remains normal with renal affections as long as there are no uremic accidents. When uremia appears, the concentration of the blood and the osmotic pressure are increased, while the freezing point drops 7 degrees C. This increased osmotic pressure is the general expression of the disturbances induced by the uremia. The same phenomena follow the injection of concentrated salt solution into the circulation. They coincide with the increased concentration of the blood when elimination of the substances accumulated in the blood is prevented.

Etiology of Surgical Tuberculosis.—Friedrich of Leipsic has been conducting experimental researches, for years, to determine questions relating to the connection between trauma and surgical tuberculosis. He introduced pus from a tuberculous abscess, or pure cultures of tubercle bacilli directly into the left ventricle through the right carotid, with a long canula, but found that tuberculosis of the bones and joints was only induced by this means in animals infected with *slightly* virulent bacilli material. The affection thus produced resembled human local tuberculosis very closely, both from the anatomic and clinical point of view, especially in its length of its evolution and its long isolated condition. In none of the experiments however, was the tuberculous affection located at the point of the trauma. One animal had tuberculosis in five joints, but the one joint injured by the experimental trauma remained intact, although the animal had been inoculated with the cultures five minutes after the trauma. None of the contusions and distortions seemed to afford a *locus minoris resistentiæ*. The kidneys were not apparently affected in any case inoculated with weakly virulent infection, but with small doses of highly virulent material both kidneys became violently infected. In fifteen animals one of the kidneys was removed after this violent infection, with the result that in spite of the simultaneous renal tuberculosis on the other side, the animal did not become any worse, and when killed later, the remaining kidney was found much hypertrophied and some portions of the tuberculous processes were in a distinct stage of regression. The report was presented before the German Cong. of Phys. and Nat.

Ptomain Poisoning on an Army Transport.—The transport *City of Rio de Janeiro* left Honolulu, H.I., Oct. 17, 1899, for Manila, P. I., carrying about 700 officers and men of the teritis occurred, the disease being chiefly confined to one 35th U. S. Vol. Inf. Five days later 25 cases of gastro-encompany. This outbreak was at the time attributed to the use of canned goods purchased by the men from the commissary store on board the transport. Under this impression further sale of this was prohibited. Next day, however, that is, on the evening of the 23d and morning of the 24th, 289 enlisted men and two officers were attacked with abdominal pains, vomiting, diarrhea, headache, muscular prostration and great thirst. All these symptoms were not manifested equally in every case. In 42 the headache was very severe, and in 18 the diarrhea could not be restrained. Muscular weakness was present in all, and in 35 there was excessive perspiration, with coldness of the skin, cramps of the legs and arms, aching of the joints, great restlessness and muscular twitchings. In a few of the cases prostration was very great and the pulse feeble. One man died at the end of eight hours. On investigation it was found that all who were sick had eaten of the fresh meat issued to the men on the evening of October 23. The use of this meat was discontinued. No further sickness occurred. The vessel arrived at Manila November 5. Major H. O. Perley, surgeon, U. S. A., was on board as a passenger. Dr. C. W. Fry, acting assistant-surgeon, was in charge.

Uterine Sclerosis and Chronic Metritis.—In a recent thesis (Paris), M. Hepp distinguishes between true interstitial diffuse metritis leading to atrophy after inflammatory processes and a pseudometritis, characterized by a systematic perivascular sclerosis, tending to hypertrophy, as long as the physiologic activity of the uterus lasts, ranging from a mere tendency to congestion on the part of the uterus to the pure and complete type of sclerosis and giant uterus with or without fibromata. In some cases the sclerosis is the termination of a long series of accidents scattered along the entire course of genital life; in others the troubles which precede the sclerosis are less protracted, less marked and become accelerated with the approach of the menopause. In both cases they may be arrested, even retrogress with the menopause in such wise that these morbid conditions which terminate in sclerosis and always precede it, frequently suggest new clinical entities. This fact explains the protean aspect of sclerosis of the uterus which may simulate all the types of metritis according as the dominant factor is congestion, telangiectastis, hypertrophy of the cervix, sclerocystic ovaries, relaxation of fibrous tissues, general hypertrophy or myomatosis. Uterine sclerosis requires different treatment from infectious metritis. It consists essentially in measures to relieve congestion, orthopedies, partial, conservative, atrophying operations and, if necessary, total vaginal castration. Curetting, cauterization and antiseptic measures are directly injurious.

Vascular Lesions of General Paralysis.—Straub's study of this subject appeared in the *Neurol Cbl.* of October 15, about the time of his death from a pulmonary affection probably induced by the constant use of formaldehyde in his research. He found lesions of the aorta, in general paralysis, differing from ordinary atheroma: a circular thickening of the internal coat, frequently involving the valves and obliterating the different vessels. No regressive process could be discerned, no calcification, no fatty degeneration. He noted these

lesions sixty-nine times in eighty-four cases out of general paralysis. On the other hand he only discovered them seven times among seventy-one individuals not general paralytics, and each of these was a syphilitic. In short, histologically they are syphilitic lesions. Syphilis was evident in 82 per cent. of the cases of general paralysis. The number of men was thrice that of the women. He remarks that syphilis leaves more persistent lesions in men. The vascular lesions in the brain in general paralysis differ also from ordinary atheroma, more resembling syphilitic endarteritis. He does not claim that these specific lesions exist in every case of general paralysis, but in every case the general paralysis is closely connected with the vascular lesion, which may possibly be its starting-point.

Burden of Proof As to Value of Services.—In Harrington vs. Priest, wherein it was sought to recover $250 for dental services, and the defendant set up a counterclaim for $1000 damages for poor work, the supreme court of Wisconsin reverses a judgment for the plaintiff, on account of error in the instruction given the jury. It holds that the burden of proving that the services rendered were performed with reasonable skill, and were worth the sum mentioned, was on the plaintiff. And it approves of the instruction: "The burden of proof, so far as this case is concerned, rests upon the plaintiff to establish his side by a fair preponderance of the evidence, which is sometimes called the "down weight of evidence." If you find from the testimony, as I say, that the plaintiff did this work in a reasonably careful and skillful manner—in such manner as dentists of ordinary standing, of good standing in this community or this vicinity would have done it—and that the price he has charged is a reasonable price, then you should return a verdict in favor of the plaintiff for the full amount claimed." But the supreme court says that the judge went wrong when he added to this the further and inconsistent charge that, in establishing the fact that work was improperly done, the burden was on the defendant. Confessedly, says the supreme court, the plaintiff had the laboring oar. There was no burden on the defendant, on this issue, to show affirmatively that the services in question were negligently or unskillfully perfomed, or that they were not worth the sum claimed. If his evidence in defense left the issue in doubt or uncertainty, the plaintiff could not recover. Under these circumstances, it could not be true that the burden rested on the defendant, "in establishing the fact that the work was improperly done." But, when it came to the question of damages under the counterclaim, or the other issue, then, the court goes on to state, the defendant could not secure a recovery except that he establish a claim therefor by the preponderance of the evidence.

Etiology of Chlorosis.—This was the chief subject discussed at the Italian Congress of Internal Medicine held at Rome in October. Castellino, in his address, emphasized the connection between this affection and Basedow's disease. The three series of symptoms that dominate each; the disturbances in the nervous system, disorders in the thyroid and genital functions and alterations in the blood crasis are probably due in each to a thyroido-genital autointoxication, acting through the sympathetic system. Murri, Eulenburg and Pozzi have shown that the changes in the blood may be traced to the sympathetic, and Pozzi ascribes great importance to the functioning of the vasomotors in the bone-narrow. The speaker therefore proclaimed that chlorosis is due to irritation of the sympathetic. Stimuli that can excite the sympathetic are particularly numerous in young girls at puberty, and this excitation can easily determine the central or peripheral vasomotor disturbances which characterize chlorosis. Riva reported numerous experiments on dogs deprived of iron in any form, and asserted his conclusion that hemoglobinogenesis is the specific function of the red corpuscle itself, and that the pathologic process in chlorosis is the new formation of corpuscles abnormal in respect to their biochemical function. Chlorosis is therefore the expression of a defective regeneration, not of an abnormal destruction of the elements of the blood. Gioffredi supported the nervous etiology on the strength of two cases which he had cured with electric treatment after failure of other measures. This nervous etiology does not exclude the possibility of ovarian hyperfunction as the secondary cause. It is important to distinguish chlorosis from other forms of anemia, while still recognizing the possibility of the complication of the picture with a secondary anemia. Aporti warmly recommended endovenous injection with ferr. citr. ammon., 1/10, as very effective in Chlorosis, and Pane described a moderate leucocytosis—10,000—with great preponderance of the mononuclear forms—lympho and splenocytes—as a *signum mali ominis* in animals and probably in man.

Maryland Examination Statistics.—The statistics of the state medical examination of candidates for practice, held last May, have been published and afford some interesting facts: 62 candidates applied, of whom one "withdrew by permission on account of illness," after having received 75 on two subjects, this being the general average required to pass an applicant. The schools represented were: University of Maryland, 29; Baltimore Medical College, 10; Baltimore College of Physicians and Surgeons, 9; Baltimore University, 4; Johns Hopkins University and Woman's Medical College of Baltimore, each 2; Harvard, Medico-Chirurgical of Philadelphia, University of Heidelberg, University College of Medicine of Richmond (Va.) and Maryland Medical College, each 1. The highest mark was 96, both Johns Hopkins men receiving this; next comes a University of Maryland man, with 95; then one from the College of Physicians and Surgeons, with 94; Baltimore Medical College, 92; Harvard, 87; Woman's Medical College, 85; University of Heidelberg, 83; University College of Medicine of Richmond, 81; Baltimore University, 80; Medico-Chi. of Philadelphia, 76. The one representative of the Maryland Medical College (the new-three-school) had his papers "canceled for cheating. Page from a compend found in papers." The lowest reached was 14 by a Baltimore University man. Of 62 applicants, 8 failed to reach the general average required, viz.: 3 from the Baltimore University; 2 from the Baltimore Medical College; and one each from the University of Maryland, and the College of Physicians and Surgeons. The average of the candidates from the six Maryland schools was: Johns Hopkins, 96; College of Physicians and Surgeons, 84.55; University of Maryland, 83.24; Baltimore Medical College, 82.20; Woman's Medical College, 82; Baltimore University, 55. The examination was written and purely didactic. The published questions show that the examination was fair, practical and of moderate severity. There is evidence of decided improvement in the qualifications of those applying and unworthy men are being frightened off. The profession of Maryland may well congratulate itself on the work of its Examining Board.

Progress of the Plague.—Two new cases of plague were reported from Santos, Brazil, during the ten days ending November 22. The *British Medical Journal* of December 9 states that there were seven cases in the Santos hospital, November 22, of which number 6 were convalescent. On December 13, the New York City Board of Health rendered its long-deferred decision in regard to the vessels from Santos, which have been for some time past in quarantine. They are to be permitted to dock and land their coffee. The *J. W. Taylor*, the only ship on which cases of plague has occurred, had sailed for Queenstown—without having been allowed to land at any dock—before the decision was rendered. Her cargo of coffee, which was transferred to lighters, is to be permitted to be landed after the coffee-bagging has been burned and the coffee itself has been roasted at a point designated by the officers of the Board of Health. All vessels hereafter arriving from infected ports may dock, after having been subjected to the course of precautionary measures prescribed by the U. S. Treasury Department and the Health Officer of the port, the latter official giving a certificate to that effect to the Health Department. Mauritius reports 29 new cases and 36 deaths during the week ended November 30. There were two new cases and 2 deaths in Hongkong, October 14-23, and 3 cases and 3 deaths in Japan during the week ended November 11. In Tamatave, Madagascar, there were 11 cases and 8 deaths, October 16-22. Later advices state that the disease is on the decline. The official reports state that there were 41 cases and 17 deaths in Oporto, Portugal, November 1-20. There has been no extension of the pest in this locality. Salimbeni has

returned to Paris from Oporto and reports that the favorable results of serum treatment were maintained. Of the 142 cases treated with the serum, 21 died, a mortality of 14.7 per cent. Of the 72 not treated with it, during the same three months, 45 died, or 62.6 per cent. There has been a marked decrease of mortality in Bombay, India, the latest reports showing a rate less than 100 per week. It is said that the British Government is making extensive experiments in regard to the antiplague serum, at the Government House, Parel, Bombay. Trouble is said to have occurred in making this a popular measure in India, on account of the belief on the part of the Hindoos that the material to be injected into the body is of an animal nature and so said to be a religious offense. At the present time it is almost impossible to judge of the good results obtained from Haffkine's serum, which is due to the suppression of many cases. At Kirkee, the disease broke out among the royal artillery followers and, of these, 671 persons were inoculated and 859 not. Among the former there were 32 cases and 17 deaths, while among those not inoculated there were 143 cases and 98 deaths. It is further said that at Caneshkind, among the servants of the Governor of Bombay, 324 persons were inoculated and 300 not; 14 cases occurred in that quarter, and all of them were confined to those who had not been inoculated. The authorities of Belgium have forbidden research on the plague outside of the five principal bacteriologic laboratories, and issued strict orders in regard to immediate notification of suspicious diseases.

Queries and Minor Notes.

TRANSPORTATION OF TYPHOID FEVER.

JACKSONVILLE, ILL., Dec. 2, 1899.

To the Editor:—Recently I was refused transportation of ten miles—on a cot in a baggage car—by a trunk line, for a patient having typhoid fever. Our secretary of the State Board of Health sustained the action. Do you know of any regulation in other states or countries concerning the transportation of typhoid patients, or have railroad companies, within your knowedge, made such regulations? Yours respectfully,

CARL E. BLACK, M.D.

ANSWER:—The transportation of persons suffering from infectious and contagious diseases is generally, we think, a matter of local regulation by health authorities, though there are perhaps statutes directly governing it in some states. There is apparently no specific law in regard to it in Illinois that would prohibit transportation of a case of typhoid fever under proper precautions for a short distance. If the principle of prohibiting the transportation of contagious diseases was thoroughly carried out, travel would be very considerably limited, and good judgment and common sense should be exercised in this as in other matters. In England the laws are rather rigid in regard to certain specially contagious disorders. The newspapers announce a suit against a railroad in Kansas for the introduction of smallpox, the decision of which may set a precedent as to the liability of carriers in this matter, but it is more doubtful whether any adverse decision would be obtained in regard to typhoid. The matter is one that can be properly left largely to local and state boards of health for decision and regulation. If we are incorrect in any of the above statements, we will be glad to be set right by any of our readers.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., December 7 to 14, inclusive, 1899:

Ira Ayer, acting asst.-surgeon, previous orders relieving him from duty with the transport *Wright*, and directing him to accompany the 41st Inf. Vols. to Manila, P. I., revoked.

Charles Bruning, acting asst.-surgeon, from Manzanillo, Cuba, to New Orleans, La., for annulment of contract.

W. W. Calhoun, acting asst.-surgeon, from New York City, to Washington, D. C., for instructions.

Benjamin J. Edger, Jr., lieutenant and asst.-surgeon, U.S.A., from Fortress Monroe, Va., to the Department of California.

Leigh A. Fuller, lieutenant and asst.-surgeon, U. S. A., from New York City, to duty at Fortress Monroe, Va., and as quartermaster and commissary of the Josiah Simpson General Hospital.

James E. Miller, acting asst.-surgeon, from Des Moines, Ia., to the Department of California.

Edward R. Morris, major and surgeon, Vols, now on leave, is relieved from duty in the Department of the Pacific and will report for duty at Fort Wayne, Mich.

Frederick P. Reynolds, captain and asst.-surgeon, U.S.A., to proceed from New York City, on the transport *Sumner* to Manila, P. I., for duty in the Department of the Pacific.

Louis J. Shuter, acting asst.-surgeon, from Lima, Ohio, to the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ended Dec. 16, 1899:

Asst.-Surgeon W. L. Bell, detached from the *Philadelphia* and ordered to the *Independence*.

Asst.-Surgeon W. M. Garton, orders of December 6 modified, detached from the Washington navy yard and ordered to the *New York* immediately.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Dec. 14, 1899:

P. A. Surgeon J. H. Oakley, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Queenstown, Ireland, for duty.

P. A. Surgeon H. W. Wickes, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Glasgow, Scotland, for duty.

P. A. Surgeon J. B. Greene, to proceed to Bremen, Germany, for duty.

Asst.-Surgeon H. S. Mathewson, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Liverpool, England, for duty.

Asst.-Surgeon G. M. Corput, to proceed to Marseilles, France, for duty.

Asst.-Surgeon W. W. King, detailed as inspector of unserviceable property at New Orleans, La.

Acting Asst.-Surgeon Fred McIsaacs, granted leave of absence for two weeks from December 21.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dc. 13, 1899:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, December 2 to 9, 2 cases.
Kansas: Arkansas City, November 27 to December 2, 14 cases, 1 death; Columbus, November 27 to December 2, 1 case; Lawrence, November 27 to December 2, 6 cases; Peoria, November 27 to December 2, 1 case; St. Marys, November 27 to December 2, 2 cases, 1 death; Wellington, November 27 to December 2, 2 cases.
Louisiana: New Orleans, December 2 to 9, 7 cases.
Massachusetts: Chelsea, December 2 to 9, 3 cases.
South Carolina: Greenville, December 2 to 9, 4 cases
Virginia: Portsmouth, December 2 to 9, 19 cases.

SMALLPOX—FOREIGN.

Belgium: Antwerp, November 11 to 18, 3 cases.
Bohemia: Prague, November 11 to 18, 19 cases.
Brazil: Ceara, October 1 to 31, 1 death.
Canada: Kamouraska, November 27 to December 4, 63 cases.
Cuba: Cagilda, November 27 to December 4, 5 cases.
Egypt: Cairo, October 23 to November 4, 1 death.
England: London, November 18 to 25, 1 case.
Greece: Athens, November 11 to 18, 3 cases, 1 death.
Mexico: Chihuahua, November 23 to December 2, 2 deaths; Vera Cruz, November 23 to December 7, 2 deaths.
Russia: Moscow, November 4 to 18, 2 deaths; St. Petersburg, November 11 to 18, 17 cases, 3 deaths.
Spain: Corunna, November 18 to 25, 1 death.

YELLOW FEVER—UNITED STATES.

Florida: Key West, November 20 to 30, 4 cases.
Louisiana: New Orleans, December 2 to 9, 1 case.

YELLOW FEVER—FOREIGN.

Colombia: Barranquilla, October 22 to November 18, 2 cases, 2 deaths; Panama, November 25 to December 5, 10 cases, 5 deaths.
Cuba: Havana, December 1to 7, 6 cases, 1 death; Matanzas, November 26 to December 3, 1 case.

CHOLERA.

Turkey (In Asia): Amara, November 13, present; Hassorah, November 23, spreading; Fao, November 17, present; Shabra, November 16, present.

PLAGUE.

Brazil: Santos, October 18 to November 18, 22 cases, 11 deaths.
China: Hongkong: October 14 to 23, 2 cases, 2 deaths.
Japan: Osaka and Hiago, November 4 to 11, 3 cases, 3 deaths.
Madagascar: Tamatave, October 16 to 22, 11 cases, 8 deaths.
Portugal: Oporto, November 1 to 20, 41 cases, 17 deaths.

CHANGE OF ADDRESS.

Burt, C. I., from Lake City to Davenport, Iowa.
Belden, G. W., from Jericho to Underhill, Vt.
Blake, D. B., from 2102 West End Ave. to Jackson Bldg, Nashville, Tenn
Bubna, C. W., from 677 Quincy to 10 S. Woodland St., Cleveland, Ohio.
Byers, D. W., from Reading to Lexington, Mass.
Butts, J. B., from 474 Ogden Ave. to 784 W. 12th St., Chicago.
Beadles, E. S., from Water Valley, Miss. to San Diego, Cal.
Dayton, J. H., from Oregon City, Ore. to 1418 F St., Lincoln, Neb.
Felt, R. A., from Oconomowoc, Wis. to Taloga, Okla. Ter.
Hunt, A. F., from Granada to Truman, Minn.
Manchester, W. C., from Cleveland to Massillon State Hospt., Massillon, Ohio.
Owens, D. W., from Hersman, Ill. to 1314 Colorado Ave, Colorado Springs, Colo.
Sibley, A., from Wortham to Dublin, Texas.
Stout, Jno., from Ottawa, Ill. to Pender, Neb.
Walker, W. H., from Dixon to Wilson, Ky.
Wilson, J. F., from 602 W. 63d to 144 65th St., Chicago.
Williams, C. B., from Durant, I. T. to Mineral Wells, Texas.